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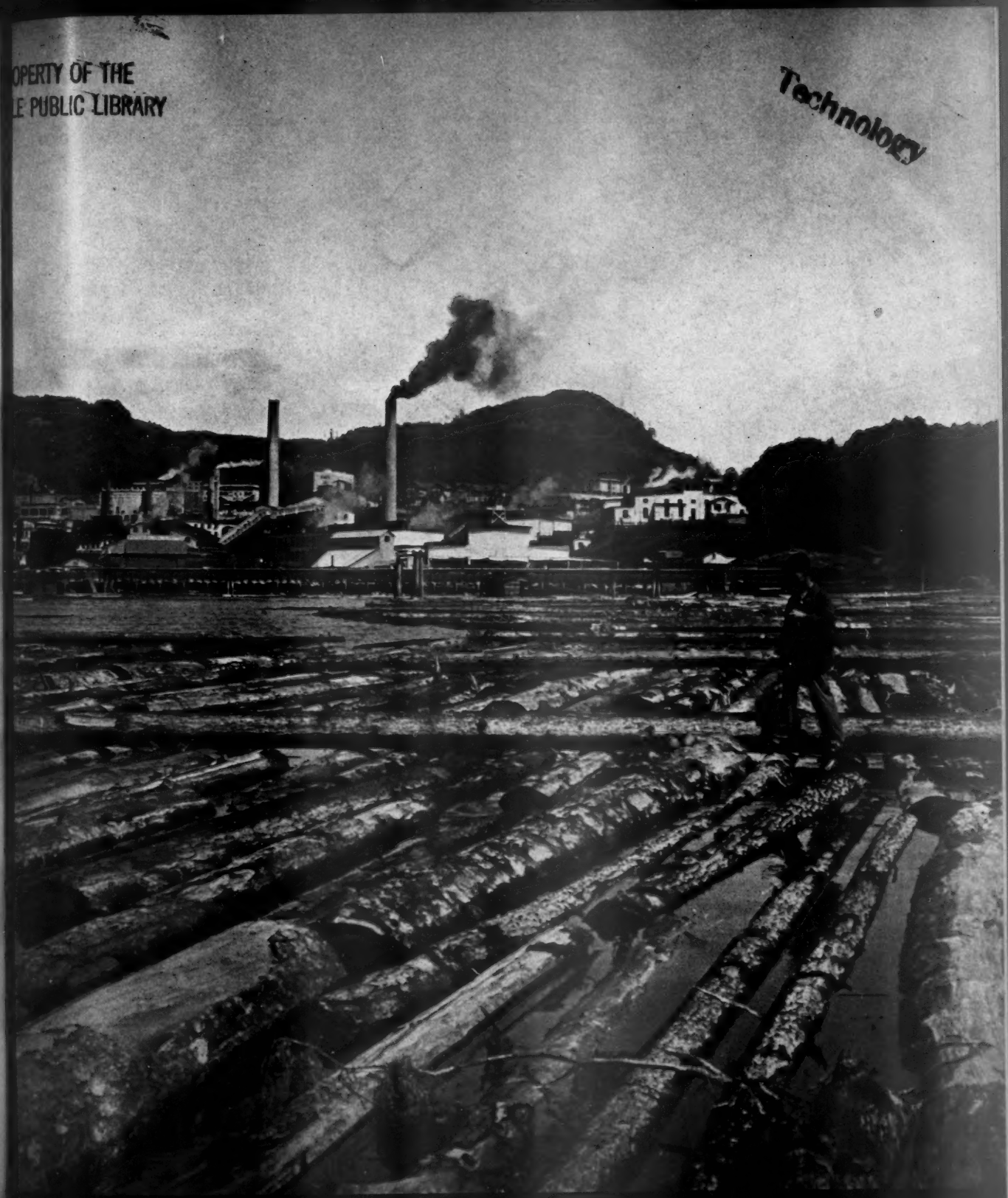

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Democracy at Work in the Woods Industry

(Editorial)

IF Paul Bunyan could have looked into a federal courtroom up on Seattle's First Hill a few weeks back, he would have rubbed his old eyes in amazement and looked again hard—just to be sure it wasn't a mirage.

Here in one room were gathered pulp and paper mill operators, lumbermen, loggers, the heads of almost all federal agencies in the northwest dealing with woods industries, union leaders, civic leaders and U. S. and state foresters. They were there either as witnesses or as intensely interested observers of a hearing of the lumber shortage subcommittee of the small business committee of the U. S. house of representatives.

Many of the most important men in the pulp and paper, lumbering, plywood and logging industries were present. The testimony concerned logs—"the life blood" of those industries—and the manpower and equipment needed to get out those logs. Not all of those present testified, but every different outlook toward the problems of our big tree forests of the west had a voice in the proceedings.

The gyppo logger and the small timber owner also were heard. Even a self-styled "nature lover" took the stand and, on another occasion, a young university student, zealous of his rights as a citizen, was allowed to speak his mind.

It was inevitable that this hearing would drift into every phase of the past, present and future of the forests and of the industries dependent upon them. Men who took the stand gave expression to faiths and to hopes which they had harbored in their hearts for a lifetime. It was a fine example of cooperation among all these interests and an unusual demonstration in a field in which the cooperative spirit of government and of various factions has sometimes been notably lacking.

It was inevitable that much time would be wasted on trivialities. There was more "I feel that" testimony than factual testimony. And the congressmen, bless their hearts, couldn't resist breaking into the discussions every little while to deliver little set speeches on how much they love the trees and how much they have done for their constituents. But that was for the record, and that was inevitable, too. For the most part, Representative Henry Jackson (D. Wash., 2nd Dist.), the chairman, did a fine job of keeping the hearing on the beam.

Because so much depends on the three congressmen who conducted the hearing—for it will depend largely on them whether any government or legislative ameliorative action is initiated—their attitudes were of interest.

Mr. Jackson, a resident on Puget Sound, was well informed on the peculiar problems faced by these industries. His attitude was that wholesale shutdowns of lumber mills after the war cannot be avoided, but he indicated that the future of pulp and paper mills or new plastics or wood finishing industries might be brighter.

Estes Kefauver (D., Tenn.), seemed frankly desirous of learning as much as he could about conditions that differentiate the woods industries of the west from those in his part of the country. He gave a definite impression of an open mind on most points.

William H. Stevenson (R., Wis.), definitely did not give such an impression. His commentaries implied a conviction on his part that reforestation in the Pacific Northwest was as non-existant as it had been in his own state a generation ago.

On one occasion, he rebuked an operator for not having Douglas fir ready to cut again on land that was logged only 25 years ago. Then he amazed foresters present by trying to pin them down to a statement giving a definite number of years as the lifetime of a Douglas fir. We hope he was convinced that soil, locality, weather, etc., may delay or speed up maturity of our big trees by as much as a generation. When told that some Douglas firs reach maturity in 75 years, he posed this query:

"And what will you do for wood during those 75 years?"

His questions also indicated he seemed to think women could work in the western woods, falling and bucking our big trees. It would not be worth the space here to repeat all the rather extraordinary remarks of Mr. Stevenson but these are enough to show his line of thought.

None of the congressmen relished the discussion of a proposal to open Olympic National Park to selectively log mature and dying trees for aircraft lumber. They washed their hands of this issue when Mr. Jackson said no legislation was necessary and that the problem would be left to Interior Secretary Ickes to decide. Before he could have read any of the testimony of witnesses—many of whom interrupted important war work to come to Seattle to give their views—Mr. Ickes ruled out the proposal. In the light of his decision as well as their attitude, the airplane and automobile tour junket the three congressmen made over and in the Park after the hearing was wasted time.

Demanding that all other sources of logs be exhausted first, Mr. Ickes urged that Canadian exports of logs be increased. This subject was thoroughly aired at the congressional hearing. Since the British Columbia mills are permitted to sell 15 percent of their lumber in the United States, Mr. Jackson suggested that the export of "a like amount of logs" should be authorized. The congressmen all bespoke closer cooperation in the war effort between Canada and the United States. The Canadians, who are doing a difficult and sometimes spectacular job of getting spruce for aircraft off the Queen Charlotte Islands, might be justified in saying they already are doing their share.

The testimony resolved itself down to the basic point that lack of manpower in the woods was the fundamental cause for the lack of logs in both Canada and the United States. It showed there has been no real attempt at coordination among federal agencies to solve this problem. Not long after the hearing, Draft Director Lewis B. Hershey issued a directive declaring cutting of pulpwood was essential. But on close scrutiny, we see that this directive is like all the others relating to logging—it is toothless. Draft boards are not obligated to accept it.

Soldiers are being sent into the copper mines. But they are not available for work in the woods. The congressional committee that met in Seattle might do something about the problem—if it chooses to. Otherwise, anyone who thinks there is not going to be a grave lack of logs for war production this next winter and spring is simply indulging in wishful thinking.

Spiking a Nasty Story

CIO union leaders in various localities of the Pacific Northwest have repeatedly charged logging firms with by-passing high grade stands of timber —urgently needed now for aircraft lumber and ship planking and decking—in order to log more remote and poorer stands for which good wartime prices may be obtained. The high grade timber, of course, will still be in demand and draw relatively high prices after the war.

This charge is made so frequently by the CIO that it appears done by plan and predetermination. It reaps headlines in the press. Denials of operators, if published, go back on page umpty-ump. Often, they are not given a chance to reply to these indirect slurs on their patriotism, even when their own operations are discussed.

On two different days, two different CIO leaders made this charge at the congressional sub-committee hearing on the manpower and log shortages in the Pacific Northwest. They were E. E. Benedict, executive secretary, and Al F. Hartung, Oregon director for the International Woodworkers of America, CIO affiliate. Finally the congressmen got around to asking for specific cases. Mr. Hartung said:

"The Crown Willamette Paper Company (which is cutting aircraft lumber) is logging in scrub wood at Seaside, Ore., passing up good timber needed for the war effort which could be logged at less cost."

Mr. Hartung's statement got the headlines. But not the reply on the following day by a neutral source and a man whose sincerity and honesty is recognized and admired by everyone who knows him. We refer to F. H. Brundage, western log and lumber administrator for the War Production Board.

Said Mr. Brundage:

"WHILE THE TIMBER THAT THE CROWN WILLAMETTE PAPER COMPANY IS CUTTING AT THIS TIME DOES NOT APPEAR TO BE SO GOOD, THE COMPANY IS CONTRIBUTING MORE TO THE WAR EFFORT BY CUTTING IT THAN IF IT HAD GONE INTO THE TIMBER MENTIONED BY THIS MAN (MR. HARTUNG.)

"IF THEY WERE CUTTING WHERE HE THINKS THEY SHOULD, THEY WOULD PRODUCE MORE TOTAL FEET OF LUMBER PER MAN BUT LESS AIRCRAFT GRADE LUMBER PER MAN. THERE IS LOTS OF FINE APPEARING SPRUCE IN WASHINGTON AND OREGON THAT IS NOT SUITABLE FOR AIRCRAFT LUMBER."

F. H. BRUNDAGE, WESTERN LOG AND LUMBER ADMINISTRATOR.

HE SPIKED AN UNPLEASANT AND UNTRUE STORY.

BUT HE DIDN'T GET HIS STORY IN THE NEWSPAPERS.

Mr. Hartung also mentioned "good timber" bypassed by another logging company in the Upper Willamette area of Oregon. According to a neutral trained forester who has seen that stand, the company has gone into a more difficult area at present in order to save more accessible stands for winter logging.

We are certain that, barring a few unimportant exceptions, employers and employes in the woods industries of the Pacific Northwest are equally patriotic.

Slurs upon the patriotism of either management or labor should be emphatically rejected. Let's get on with the war—shoulders together.

Wood Shortage and Industry's Future Aired at Congressional Hearing

Increased log exports by Canada are urged with Lawson P. Turcotte of Bellingham as one of chief witnesses ✓ ✓ ✓ Proposal to open Olympic Park to logging for war materials is killed.

HOW to get more logs was the question under discussion at a three-day hearing, July 12-14, in Seattle of the lumber shortage subcommittee of the House of Representatives small business committee. Henry M. Jackson (D., Wash.), chairman; Estes Kefauver (D., Tenn.), and William H. Stevenson (R., Wis.) conducted the hearing. In an opening statement, Mr. Jackson said there may be a 6,000,000,000-foot lumber shortage this year.

More than 40 witnesses included F. H. Brundage, WPB log and lumber administrator; H. J. Andrews, U. S. Regional forester; Gen. W. G. Winsor, special consultant to the regional manpower director; A. F. Hardy, Washington state manpower director; Lee C. Stoll, Oregon manpower director; Orville Miller, president, and Col. W. B. Greeley, secretary, West Coast Lumbermen's Association; Charles G. Burdick, manager, Alaska spruce log program; Pat Hetherton, secretary, Washington state planning council; J. H. Bloedel, J. N. Donovan, E. K. Bishop, Fraser Morrison, Bob Fox, and other well-known logging and mill operators, and Lawson P. Turcotte, executive vice-president of the Puget Sound Pulp & Timber Company.

Many other prominent men in the woods industries attended the hearings. One or two top men from almost every pulp and paper company in the Pacific Northwest were in the audience in the federal courtroom, which was the scene of the discussions.

The three principal subjects discussed were:

(1) The lack of manpower in the woods.

(2) The proposal of civic groups in Seattle, Port Angeles and Aberdeen to open Olympic National Park to logging for war needs.

(3) The Canadian restrictions on log shipments to Puget Sound mills.

As to the manpower crisis, most of the operators testified that present production of logs might be maintained if they could keep the men they now have in the woods. Much doubt was cast on the prospects for keeping these woodsmen, both by the operators and by government agency men, because of present military demands and lack of effective measures to prevent the men from drifting. Regardless of the manpower situation, both operators and U. S. and state foresters testified that production of high-grade lumber for aircraft would be reduced unless Canadian imports were increased or new stands opened up.

Possibility of opening Olympic National Park to selective logging of spruce was of interest to pulp and paper operators. Colonel Greeley said that in event this was done, "old growth of hemlock and fir should properly come out at the same time." Also, some pulp and paper men observed that if the Park were opened, the poorer quality stands now used for lumber supply might be available for pulpwood. Shortly after the hearing, however, the Park debate was silenced and the door was slammed shut on any possibility of logging there, at least for this year, by the veto of Interior Secretary Harold Ickes—even before he had an opportunity to read the Seattle testimony.

Turcotte's Testimony

As for the third point discussed—the Canadian virtual log export embargo—Mr. Turcotte was the principal witness. His testimony follows:

"In order to realize the drastic step taken when Canada placed an embargo on export of logs to Puget Sound last September 1, here are figures on Canadian exports of pulpwood only: In 1940, 147,000,000 feet; in 1941, 190,000,000 feet, and for eight months in 1942, 105,000,000 feet.

"When the embargo went on, three Puget Sound mills shut down and others had to operate at 45 to 80 per cent capacity. In the meantime, British Columbia mills were operating at or near capacity.

"Although British Columbia pulp and paper mills are large owners of timber they followed a policy of purchasing large amounts of their logs from independent suppliers. For them, the embargo was preferable to opening up their own holdings.

"The embargo was explained as being necessary because of log shortages. It is my belief that these log shortages were due to low prices. Prices of logs in Canada were too low to encourage small producers. Two price raises in the past year show this to be true, but these price raises were vigorously protested by the British Columbia pulp and paper industry. The price in Canada is still $3 per thousand below what Puget Sound mills must pay."

In reply to questions, Mr. Turcotte said:

"Other reasons for the lack of logs are shortages of manpower, of equipment and of supplies. Also, last winter was one of the worst in years in its effect on logging operations."

Discussing comparative log inventories in Puget Sound and British Columbia, he continued:

"The Puget Sound inventory of hemlock, balsam and white fir in June, 1942, was 123,000,000 feet. In June, 1943, it was only 49,000,000 feet. The British Columbia inventory of hemlock, balsam and white fir in June, 1942, was 77,000,000 feet, and in June, 1943, it was 61,000,000 feet. There was only 21 per cent decline in British Columbia as against a 60 per cent decline for Puget Sound.

Questioning the value of the British Columbia inventory figures, Mr. Turcotte said:

"Figures of British Columbia inventories increased from April to May of this year by 21,000,000 feet of fir, 9,000,000 feet of cedar, and only 750,000 feet of hemlock. Anyone familiar with logging can see that there must have been more hemlock logged. If all the hemlock was reported, enough would show up for export. But in British Columbia they do not report the logs in lakes. I would say there is 20,000,000 feet additional available in pulpwood logs."

At this point, Mr. Turcotte suggested a "yardstick" for exports. He suggested that the Canadians take as base figures "average export and production figures for the past three years and decrease exports by the same percentage that the British Columbia mills' production has decreased."

He continued: "Actually, British Columbia has twice as much inventory of hemlock as Puget Sound and only half the capacity of pulp and paper mill operation."

Replying to questions about his own company's interests in Canada, he said: "We have $3,500,000 invested in British Columbia timber and expected to get some of our logs over here. We never have gotten out a stick except what we are getting in the recent release of 15,000,000 feet of Canadian logs for export to Puget Sound."

"We produce 8,500,000 feet of logs in Whatcom county, all by truck logging," he said. Discussing the difficulties of keeping trucks operating, Mr. Turcotte said "a truck was laid up recently for three weeks for a $2 bearing."

Buck's Testimony

Another witness on the Canadian situation, G. A. Buck, of Everett, Wash., president of the Malahat Logging Company of Port Renfrew, B. C., gave the following testimony:

"The hemlock inventory in British Columbia is 70,715,000 feet, and for the United States, 67,855,000 feet. (These apparently were current figures, but no dates were given.) The British Columbia pulp producing capacity is 53,000 tons a month and on Puget Sound it is 109,000 tons a month. On the basis that 1,000 feet of logs are required to make one ton of pulp, the Canadians have four times as much hemlock available as the Puget Sound mills in proportion to their needs.

"We will find we are out of timber long before the Canadians. The British Columbia forest survey of the Vancouver district shows 106,000,000,000 feet available, of which 42,500,000,000 feet is accessible. The survey of the Prince Rupert district shows 41,000,000,000 feet available, of which 21,000,000,000 feet is accessible.

"In 1941 there were 307,000,000 feet of logs of all kinds exported to the United States, and three times in recent years the exports have totaled over 300,000,000 feet. There were 217,000,000 feet exported in 1940. There was no limitation, anyone who wanted to export, could do so."

Mr. Jackson then asked: "There isn't any reason why they should not permit a certain portion of their logs into this country as they did before the war, is there?"

"That should be done," said Mr. Buck.

Continuing testimony, Mr. Buck said:

"The potentionial (consumption) capacity of British Columbia pulp and sawmills is 2,500,000,000 feet per year. The capacity of Puget Sound pulp and sawmills is 3,500,000,000 feet per year. Canadian mills operate at six days a week all the time and the Puget Sound mills operate about the same. The British Columbia pulp and paper mills were operating at 80 per cent capacity and the Puget Sound mills at 60 per cent, according to a statement recently made by A. H. Williamson, the Canadian timber controller. And so he made available about 5,000,000 feet (pulp logs) per month. On June 15, the Canadians got around to exporting 15,000,000 feet, the first quarter deficiency. These had to be under 20 inches in diameter."

In response to questions of the congressman, Mr. Buck said timber is "clear cut" in Canada. Incidentally, during the hearing several questions had indicated an erroneous assumption on the part of one or more of the congressmen that "clear cutting" meant there would be no reproduction, or little likelihood of reproduction, whereas it is well known that in certain areas in the west, particularly in Canada, reproduction is unusually heavy in clear cut areas, seeded from surrounding timber stands.

Greeley's Views on Canada

In further testimony on Canada's policies, Colonel Greeley stated:

"With British Columbia in a position to send its manfactured products into this country and to take advantage of our high ceiling prices, it is only reasonable that it should be able to release some obviously surplus logs."

Mr. Jackson interrupted to ask if permission to ship lumber into United States was not "aimed to help the Canadian industry get a little extra profit?"

"Whenever 30 or 40 per cent of its lumber can be sold, as was true in 1942, they can send some surplus in logs."

Mr. Jackson: "Why shouldn't the Canadians export a like amount of logs?"

Industry's Post-War Prospects

Mr. Brundage, the western log and lumber administrator, testified that "after the war, the pulp and paper mills in this area can be maintained by the trees left in the area but a large number of sawmills will be forced to shut down."

He praised the aircraft logging operations by the Crown Willamette Paper Company, division of Crown Zellerbach Corporation, contradicting testimony of two CIO witnesses that this company passed up good timber to get out poorer grades in order to take advantage of high prices (see editorial on page 6).

Maj. Charles Cowan, secretary of the Washington State Forestry Conference and chairman of the Seattle chamber of commerce forestry committee, said that pulp and paper mills and other industries using refined processes upon wood "will gradually replace the sawmills." He predicted that developments in "the chemistry of wood" and in plastics uses of the forest products would "tend to keep employment in the woods industry stabilized."

Favoring opening of the Park for logging, Major Cowan said that reforestation is now succeeding on private lands and charged that homesteaders and small farmers—not loggers—did most of the destructive burning over of logged-off timber lands a generation ago.

Other witnesses pointed out that performance of the pulp and paper industry is more easily assured than that of sawmills because pulpwood reforestation more quickly achieves its objectives, with pulpwood reaching maturity in about 20 years in many areas, while timber for lumber takes 60 to 100 years. Charles Webster, Port Angeles editor, cited the Neah Bay logging operation by Crown Zellerbach Corporation as a commendable example of reforestation technique, it being conducted "on a sustained yield basis assuring pulpwood indefinitely for the third largest newsprint mill on the Pacific Coast (at Port Angeles)."

Testimony on the Park

Mr. Greeley suggested that permission be granted to cut 1,000,000,000 feet selectively in areas totaling 15,000,000 acres in the 800,000,000-acre Park. Mr. Hetherton said the Forest Service classified 17,000,000,000 feet in the Park as "operable." He said the Planning Council favored withdrawal of 365,000 acres. Tom Aldwell, chairman of the Port Angeles chamber of commerce industrial committee, said his group wanted 1,169,000,000 feet "for war purposes" from the Park area" west of a line between Ranges 9 and 10.

Mr. Webster recommended that 50,000 "non-scenic" acres in the Park, west of Range 9, be opened to logging under U. S. Forest Service management.

Interesting facts and opinions voiced at the hearing:

Mr. Greeley: "The principle of the draft should be extended from our boys to the spruce in the Park. Nothing is too sacred to do its share."

Mr. Brundage: "There is no privately owned spruce suitable for aircraft lumber left in the Northwest, other than what is now being developed. Demand for aircraft lumber is increasing."

Mr. Andrews, regional forester: "National forests are being over-cut. After the war, operators getting timber from national forests will have to go elsewhere. . . A fire-point program: (1) draft deferment for loggers, (2) government subsidies for workers laid off by weather, etc., (3) "adequate opportunity" to recruit labor for the Alaska spruce program, (4) a pool of truck and tractor parts, and (5) logging roads built by army engineers.

General Winsor: "The labor freeze order at first drove men from camps. . . . Army should furlough loggers at least in summer and fall."

Mr. Miller, president W. C. L. A.: "Hundreds of loggers and other industry employes coming up before draft boards will be lost unless something is done."

J. B. Fitzgerald, manager Lumbermen's industrial relations committee: "Shortage of loggers in Washington and Oregon fir camps exceeds 5,000 men."

Mr. Stoll: 'Oregon camps need only about 800 men."

Mr. Hardy: "Washington camps needs only 1,475 men."

Mr. Donovan: "Draft boards must be told definitely not to take men. Directives don't work . . . the government should not use force in just one industry."

Mr. Bloedel: "Spruce is dying in the Park. Use of full growth timber is beneficial to the Park."

Mr. Morrison, Morrison Lumber Co., Anacortes: "Half as many logs cut in the Park would produce as much aircraft-grade as logs we are now getting. Best spruce is on the north side of the Ho River."

Al Morgan, Forks, Wash.: "Small operators are being forced to leave the Olympic Peninsula. There is no more private timber available in the Ho region."

Mr. Bishop: "The Park could be logged selectively for ten years without damaging the scenery. The Park Service has hindered the war effort."

Mr. Fox, Kosmos Logging Co.: "Other operators are paying wages above what are supposed to be paid and taking men away from us."

Harry LeGear, Crescent Logging Co.: "By opening the Park, loggers could move out of poor scattered stands and start producing high-grade material."

C. A. Pitchford, Aberdeen, chairman, Grays Harbor War Production Council: "The State Planning Council program would enable high-grade logs to be obtained quickly."

Al Sund, Peninsula Plywood Corp., Port Angeles: "We are forced to go to Oregon for logs."

Al. F. Hartung, Oregon director International Woodworkers of America: "If loggers were assured continuous work, present manpower could be maintained."

Commdr. Chester J. Chastek, Selective Service occupational advisor: "Some young men have gone into camp to escape the draft. We are doing our best to keep men in essential industries but have to take the younger men."

Preston Macy, superintendent Park Service: "Department of Interior spruce is available in the Corridor outside the Park. Timber cannot be removed from the Park, even by selective logging, without great damage from a scenic standpoint."

John Ossieward, public accountant who said he hiked "all through" the Park: "If the Park is logged, we will have to show our children in picture postcards what our forests were like."

Colonel Heron with WMC

Colonel Alexander R. Heron, vice president of Crown Zellerbach Corp., on leave for the duration has been assigned new duties in Washington, D. C. In charge of civilian personnel in the Service of Supply for about one year, he has been transferred now to take over important duties with the War Manpower Commission.

Buckland In South

C. A. Buckland, general manager of the Inland Empire Paper Company, Millwood, Wash., recently made a business trip to San Francisco.

Killam On Fuel Board

Lawrence Killam, president of B. C. Pulp & Paper Co., has been appointed to Canada's advisory fuel board with special jurisdiction over the west coast.

Bankus and Hanny Return

● Albert Bankus, vice-president in charge of operations of Crown Zellerbach Corporation, and J. E. Hanny, resident manager of the Camas, Wash., division, left for a tour of eastern and southern states on June 19 and returned July 30. The tour afforded them an opportunity to see what is doing in the industry in other regions.

Canadians Probably Will Export Another 15,000,000 Feet of Logs

B. C. operators followed congressional hearing on Puget Sound log situation with interest ... They like plan to permit American owners of crown grant timber to export any logs above amounts they are furnishing Canadian market.

● Canada released 15,000,000 feet of hemlock logs for export from British Columbia to the United States during the past month under the plan announced in Vancouver June 15, by Timber Controller A. H. Williamson, and PACIFIC PULP AND PAPER INDUSTRY learns that a similar volume may be released during the balance of the year.

At this writing it is unlikely that British Columbia will ship much more than a total of 30,000,000 feet of hemlock logs to the United States this year, compared with more than 88,000,000 feet in 1942.

Continuing light production, primarly as a result of manpower shortage, is given by Assistant Timber Controller D. D. Rosenberry as the reason for the Canadian government's inability to be more liberal.

Unofficially, it is understood that most of the logs exported from British Columbia went to Crown Zellerbach Corporation and Rayonier Incorporated. The logs were shipped on a pro rata basis according to the previous year's shipments from such companies as Lake Logging Co., Elk River Timber Co., Canadian Forest Products, Comox Logging & Railway Co., and Malahat Logging Co.

The release of this quantity of logs from southern camps was made possible, according to the explanation of Mr. Williamson, by the cooperation of Pacific Mills, Ltd., which replaced the inventories of other pulp mills from its own stocks so as to offset any net loss to British Columbia operators.

In anticipation of further log exports from British Columbia under the same arrangement, PACIFIC PULP AND PAPER INDUSTRY learns that Pacific Mills, Ltd., is preparing to allocate a total of 35,000,000 feet of logs for other mills to compensate for shipment of logs from camps in the southern part of the province. This includes the 15,000,000 feet previously allotted.

Interest In Seattle Hearing

● British Columbia pulp and paper operators followed with a good deal of interest the testimony given before the congressional committee in Seattle bearing on log exports, although on many points they were not in agreement with those who gave evidence.

To the claim that United States timber holders will be out of timber long before Canada, for instance, the Canadians declare there is more aircraft spruce timber on the Olympic peninsula than on all the Queen Charlotte Islands and that this is being withheld from use while the British Columbia loggers are steadily intensifying their rate of cutting on the islands so as to maintain the quota of shipments to the United Kingdom.

The Canadians agree that the log inventory in hemlock and balsam June 17 in British Columbia was about 70,000,000 feet, compared with 67,000,000 feet on Puget Sound, but they point out that this inventory was lower than usual and that it contained not only pulp logs but hemlock to be converted into lumber, and that last year 17 per cent of all the lumber produced in British Columbia was hemlock, as compared with about 10 percent ten years ago. Current sawmill operations in British Columbia are about 25 percent below last year's average.

It is admitted that the inventory figure does not include all logs held in lakes, as inventory is based on logs in the salt water; but it is emphasized that volume of logs impounded in lakes is less than usual.

However, despite this disagreement on interpretation of the facts, there is no inclination on the part of British Columbia loggers, pulp and paper mill operators and government officials to engage in a controversy with the spokesmen from Puget Sound. The Canadian policy, it is declared, is based on the fundamental principle of so dividing the supply of raw material that the industry as a whole will be able to make the most effective contribution to the war, regardless of whether the mills are in Canada or the United States. However, there is no disposition to ship British Columbia logs to the United States at the expense and peril of British Columbia pulp and paper mills simply because the capacity of Puget Sound plants is greater.

Hemlock Uses Increase

● Decline in hemlock production in British Columbia this year as a result of scarcity of men in the woods is shown by the fact that while the total cut of hemlock last year was 580,268,616 feet, the hemlock log scale for the first half of 1943 was only 222,766,145 feet. Hemlock is no longer the despised species that it was a few years ago and it is now being extensively used in lumber manufacture, largely as a result of the methods of drying introduced by Leon Koerner and his Alaska Pine Company, and by the generally improved status of hemlock lumber in wartime markets.

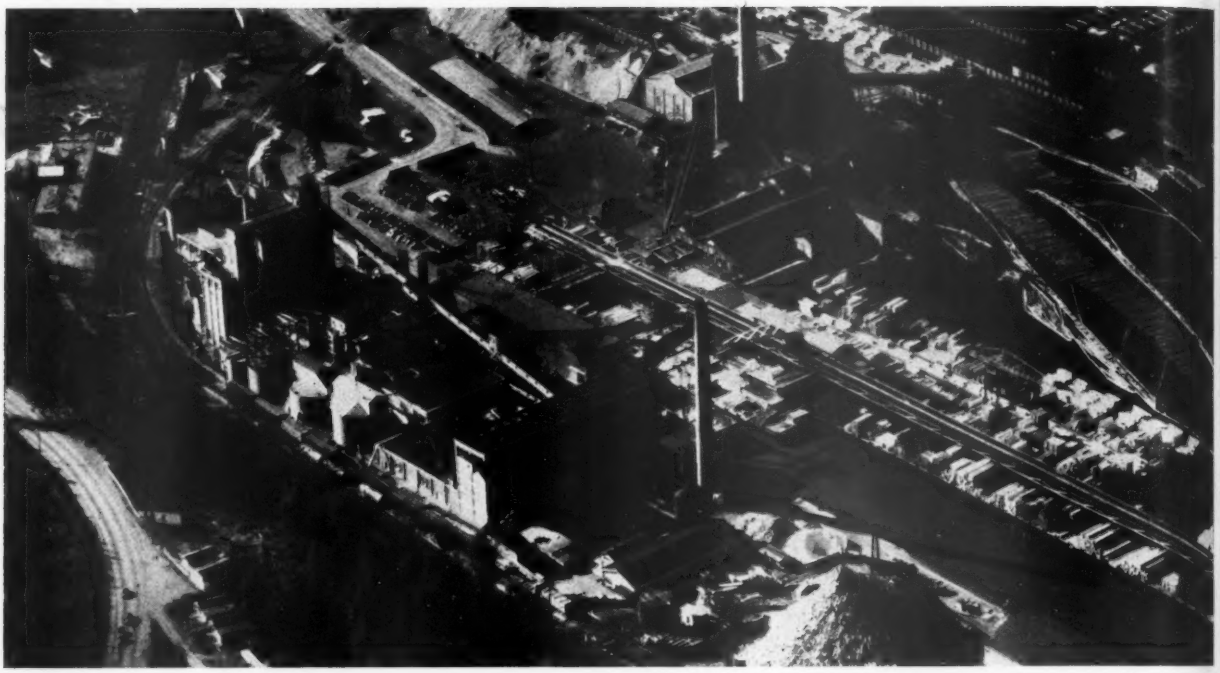
Men in the industry would like to see a plan worked out with respect to the pulping species similar to the tentative proposal for increasing the export of Douglas fir logs from British Columbia recently discussed at Ottawa between Timber Controller Williamson and J. Philip Boyd, director of the lumber and lumber production division of Wartime Production Board.

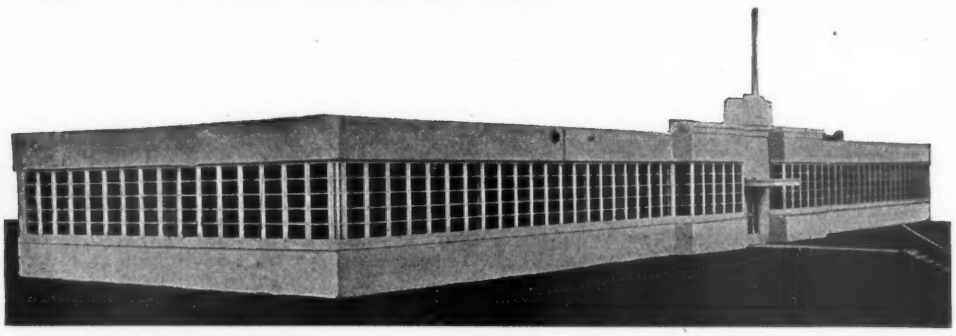
Mr. Boyd made the proposal to the controller that American owners of crown grant timber in British Columbia be permitted to export any Douglas fir over and above the amount they are now furnishing to the Canadian market; this would mean that they would be granted export permits on any increase in production that they were able to effect above their current rate.

For instance, using the second quarter's production as a base, if the operator was able to produce more than that figure in the third quarter he would be entitled to export the amount of the increase to the United States.

"This would assure the Canadians of no reduction in the amount of lumber which they would have for their own use and would still open up to the ingenuity of the American timber holding companies the opportunity of getting some logs across," said Mr. Boyd.

Log Shortage Forces Shutdown Of Rayonier's Shelton Mill





SHELTON, WASH., DIVISION of Rayonier Incorporated, forced to shut down after 16 years' operation. On right is Central Technical Control and Research Laboratory at Shelton which will continue to function, serving the Rayonier mills at Port Angeles and Hoquiam, Wash., and Fernandina, Fla.

● The pulp mill of Rayonier Incorporated at Shelton, Wash., has been compelled to shut down, owing to inability to obtain a sufficient supply of logs. Officially, the shutdown was "for an indefinite period" and—unless there is an unexpected improvement in the log situation—this is understood to mean for the duration of the war.

The Central Research Laboratory and the mill's machine shop will continue to operate.

The shutdown was due to a decision of the War Production Board that it is not feasible to allocate any further logs from any source. For a short period last fall the WPB had authorized allocation of logs to and from operators regardless of ownership, on the basis of critical products. The shutdown was put into effect August 8 to 14.

It is understood that Rayonier officials went to the highest authorities in the WPB in presenting their case and that the company officials were satisfied with the hearing they were given. Thoroughgoing consideration was given to the critical problems now faced by the entire industry, as well as Rayonier Incorporated.

The Shelton plant, one of the pioneer units of the pulp industry in the west, was built in 1927, and its 24-hour capacity, as reported this year, was 200 tons of bleached sulphite pulp, all rayon grades.

Rayonier's Tacoma plant, capacity 140 tons unbleached sulphite, whose entire output formerly was bleached and dried at Shelton, was one of three other Puget Sound mills forced to shut down last November 1 by a WPB order withholding logs. The other two mills closed at that time were the St. Regis kraft mill in Tacoma and the Coos Bay Pulp Corporation mill at Anacortes, which is preparing now to reopen.

Rayonier's Tacoma plant was sold in April and has since been dismantled. With the Shleton plant closing, Rayonier now has two mills still operating in Washington state, at Port Angeles and Hoquiam, with total capacities of 360 tons bleached sulphite.

A statement issued by Rayonier Incorporated follows:

"The company's present supply of logs will, however, be sufficient to ensure continued operation of the Rayonier pulp plants at Port Angeles and Grays Harbor. Rayonier officials have been working on adequate log allocation and additional log production in order to keep the Shelton plant operating. Due to Rayonier being a heavy producer of high alpha pulps for essential war purposes, briefs were filed with the War Production Board and vigorous efforts were made to secure log allocation on the basis of comparative war essentiality of the end uses for which pulp is supplied.

"The brief stressed the fact that failure to secure the logs would work a hardship on the community, the company's employes and the company itself. Possibility of additional log imports from British Columbia was suggested.

"However, telegrams received over the week-end (of August 7-8) by the company voiced government regret that logs cannot be diverted from other uses to

keep the Shelton plant operating."

The Central Research Laboratory of Rayonier Incorporated, under Dr. A. N. Parrett, serving all Rayonier mills in Washington and the one in Florida, will continue to function at Shelton.

A full crew will be maintained in the machine shop, turning out essential parts for warcraft and cargo ships, the shop carrying on war work under direction of J. G. E. Ellis, plant engineer, and W. F. McCann, master mechanic. The company said every effort will be made to increase production of these vital materials.

Future assignments of other men in the Shelton organization will be reported next month.

Reed Mill Shift Halted

The night shift of Mill No. 1 of the Simpson Logging Company at Shelton, which was devoted entirely to the breakdown of logs for the pulp mill, was also forced to shut down.

C. H. Kreienbaum, manager of the Simpson Logging Company Reed Mill Division at Shelton, said an effort would be made to keep the night shift at Mill No. 2, the lumber mill, operating. But this would be difficult owing to the increasing fuel pile. The Simpson company got rid of its burner some time ago and there were no adequately large scows available to carry fuel to other mills. An attempt was to be made to sell firewood by the scowload in Olympia and Tacoma but its success was doubtful.

The intake of logs by the Simpson Logging Company was unaffected, the hemlock which went to the Shelton pulp mill now going to other mills.

WPB Pulp & Paper Chief Is Guest of Coast Mill Men

● Arthur G. Wakeman, chief of the pulp and paper branch of the War Production Board, was honor guest at a dinner meeting of 16 top executives of the pulp and paper mills in the Puget Sound area at the Washington Athletic Club in Seattle on August 2.

It was understood that Mr. Wakeman outlined to his hosts the probable effects of the new allocation method of distributing pulp, which takes into consideration the essentiality of end products. He was reported to have outlined the procedures under the new inclusive orders for control of all production and distribution, put into effect recently by the WPB because of the increasingly critical shortages of pulpwood which, in turn, resulted from the loss of manpower in the woods.

Mr. Wakeman's Seattle visit came at a time when the industry faces a situation without parallel in its history. Information available to the American Paper and Pulp Association indicates that the 1944 fiber situation, because of shortages in current wood production, will degenerate by as much as 40 percent in some regions.

It is understood that Mr. Wakeman informed his hosts that the pulp and paper division he heads is vigorously pushing all measures to bring to attention of various government agencies the paramount importance of doing something to alleviate the manpower crisis in the woods. In a recent release the APPA said "the need for coordinated action in Washington remains acute but it can be said that it is now recognized."

Just two weeks before Mr. Wakeman's arrival in Seattle, the appointment of A. B. "Ag" Hansen, president of Northern Paper Mills, Green Bay, Wis., as deputy director of the WPB pulp and paper branch was announced. The industry had sponsored the appointment of a deputy director to devote his time exclusively to the handling of pulpwood problems and the expediting of pulpwood production. Mr. Wakeman was reported to have discussed this appointment and to have expressed gratification at having the assistance of an aggressive man of wide knowledge and experience in the person of Mr. Hansen.

Mr. Wakeman was accompanied on his trip by his wife and daughter. En route west, they vacationed in Montana. On August 1 and 2 they were guests of the Soundview Pulp Company at some of its logging operations in northern Washington. They went to Vancouver, B. C., by boat from Seattle August 3 and returned east via Canadian Pacific Railroad.

Mr. Wakeman was production manager of the Fox River Paper Company, Appleton, Wis., before joining the WPB in March 1942 and since October of that year has been chief of the pulp and paper branch. As a boy, he lived for one year in Seattle.

Represents Industry

Evan Pierie of Powell River Company has been appointed as representative of the pulp and paper industry on the recently organized British Columbia Industrial Safety Council.

HERE IS ONE OF THE FIRST MEMBERS OF WHAT is jokingly called the weaker sex to ever be employed in the Everett, Wash., mill, Pulp Division, Weyerhaeuser Timber Company. This is MRS. CECILIA MAERTZ and she is a versatile young lady. What she is doing in the drum of a boiler was not explained. But besides shoveling hog fuel, she has shown proficiency in bricklaying, millwrighting and pipe fitting. She is credited with building a house for her family.

Anacortes Mill Reopening Delayed

● Reopening of the Anacortes, Wash., division of the Coos Bay Pulp Corporation has been tentatively set for September 3. The reopening was postponed several weeks while necessary repairs and installations were made at the pulp mill and at the Morrison sawmill, which cut the chips.

Although a sufficiency of logs is assured, they were not coming in fast enough to permit reopening in early August, as was tentatively planned. The mill's unbleached sulphite pulp will be allocated by the WPB and normally goes to the parent company, Scott Paper Company.

C. Wylie Smith, vice-president and general manager, is directing reopening organization. Details were published in the July issue of PACIFIC PULP & PAPER INDUSTRY.

Cilfford Reynolds, who was with Rayonier Incorporated at Tacoma and Shelton, has been engaged as chief chemist.

Manpower Is Headache At Fernandina, Too

● Edward M. Mills, of San Francisco, president of Rayonier Incorporated, and Norman Gibbs, manager of the Fernandina, Fla., division of Rayonier, were in Seattle for several days at the end of July, enabling them to meet at the same time with M. B. Houston, vice president, and other executives of the Washington state organization of Rayonier.

Mr. Gibbs also visited the Shelton, Wash., division of the company, for meetings with Dr. A. N. Parrett, Research director and others in Rayonier's central chemical laboratory there. Mrs. Gibbs accompanied her husband on the long trip to the Pacific Coast. They moved to Fernandina more than three years ago after many years in the Pacific Northwest.

Lack of manpower is the No. 1 worry of Mr. Gibbs in Florida, just as it is of his former associates in the Pacific Coast industry. The Fernandina mill normally employs about 40 per cent negroes, doing heavy and unskilled work. Since the war began, Mr. Gibbs said, thousands of negroes have and still are migrating northward and negro caravans are frequently seen on the roads heading for the war industry regions of the north.

Producing pulp in Florida has its diversions, he admitted, as, for example, the time when an alligator was found in the Fernandina machine shop.

The Fernandina mill, established in December 1939, was the first dissolving pulp mill in the south. Mr. Mills and his associates decided to pioneer this development after years of research at Shelton determined to their satisfaction that the use of the highly resinous Southern pine was suitable for commercial production of pulps for rayon, cellophane and plastics.

Many Service Men Work in Mills; Draft Quotas Hit Industry Hard

Reductions in draft promised in September, but that may be too late to save many essential war industries ✓ ✓ ✓ Employment of soldiers and sailors on part time basis gives the mills a fine, physically fit type of worker ✓ ✓ ✓ The service men like the arrangement, too.

HELPING to ease their critical manpower problem, at least eight Pacific Coast pulp and paper mills are known to have made extensive use of soldier and sailor labor on a part time basis.

These mills are located in military or naval base areas. They have employed soldiers, sailors and coast guardsmen on their furloughs and even during shorter leaves from duty. Some work only a single shift at a time. Others work two or three times on a three-day leave. Still others, whose two-week furloughs give them insufficient time for a satisfactory visit to their homes on the Atlantic coast or in southern states, prefer to spend the entire "vacation" earning good pay.

The service men like this arrangement. It puts money in their pockets and they are unanimous in saying they can use it.

The mills like the arrangement, too. They get a fine, husky type of worker. Some of the men have had previous experience in mills in other parts of the country. Some have made such a good impression that they have been invited to come back after the war for a steady job, and they have accepted.

If the Sumner, Wash., division of Fibreboard Products, Inc., is not the first mill to have engaged in part-time hiring of service men, it certainly is one of the first ones. Its proximity to the big military camp, Fort Lewis, gave it a huge pool of soldiers to draw from.

M. E. Sanford, resident manager at Sumner, said as many as 150 soldiers have been on the payroll for periods of anywhere from one day to two weeks during a single month. He said the average number used during a month is from 30 to 40 men. On one morning recently, 20 soldiers were hired. The Sumner mill began this arrangement in the summer of 1942.

Other Mills Employ Them

Mills on the Olympic peninsula in Washington, on the Columbia River and others in Oregon have gone in strong for employment of soldiers, sailors and coast guardsmen. Quite a number are available to the Olympic peninsula mills because of the military and naval concentrations in that vicinity.

In this area the Fibreboard mill at Port Angeles apparently was the pioneer in giving service men casual jobs. C. V. Basom, resident manager, said an average of about 40 service men a month have been employed. They have been excellent workers, he said.

The Crown Zellerbach newsprint mill at Port Angeles has averaged about the same number each month, mostly in the wood mill.

In some areas, mills have gone out and solicited service men. One mill executive said the commanding officers of camps or bases in the area have not been interested in helping in obtaining such labor. But this particular mill sent men out on streets and roads in the nearby area and found many service men wandering around, killing time with practically no money in their pockets. This form of direct recruiting brought results.

Officials of other industries in the vicinity of pulp and paper mills have said they were "promised" that soldier labor soon would be assigned to them. (It would not be a fair system if the soldiers were not "assigned" also to pulp and paper mills.) There has been much talk of soldiers being sent into the woods as they were in the last World War in the Olympic peninsula to cut spruce at their army regular pay. However, high army officials on the west coast told a representative of PACIFIC PULP & PAPER INDUSTRY that compulsory assignment of labor from military ranks to logging on the Pacific Coast is not seriously contemplated at the present time.

And yet, only recently, the important news was announced that a large number of soldiers have been sent to work in the copper mines. The situation can hardly be any more serious in the mines than in the woods. Perhaps this will set a precedent for furloughing of soldiers to logging camps but the attitude of manpower officials presently is against such a move.

Draft Quota Is Cut

● Important news to the pulp and paper industry was the recent announcement by Colonel Walter J. DeLong, Washington state selective service director, that Washington state's September draft quota would be cut 75 per cent in order to stem the heavy drain on manpower needed in war industries in the Pacific Northwest.

This reduction was made as a result of an appeal by Colonel DeLong. (An important article stressing the essential nature of the pulp and paper industry was written for this magazine in the March, 1943, issue.)

It is unfortunate that the manpower and selective service authorities in Washington could not see their way to make reductions in the draft quotas of July and August. These are the heaviest in the history of selective service and impose a terrific hardship on essential industries of the Pacific Coast, where the manpower situation is most serious. Reductions in September may not do much good, coming after the heavy drafts of July and August.

Another pool of highly satisfactory part time labor drawn upon by the Olympic peninsula mills are high school boys, many of whom are now available full time during their summer vacations. During the school term, Fibreboard at Port Angeles employs boys on a four hour shift, and at the same time kept a watchful check on their school work to be sure they were not slipping in that department. The mill cooperated by giving boys days off whenever necessary in order that their scholastic endeavors did not suffer.

Permits for boys under 18 years of age were necessary before they could be employed. High school lads employed were 16 years and older.

Prize for Kinney

Gordon C. Kinney, Camas plant of Crown Zellerbach Corporation, was awarded a money prize ($25) for his suggestion to install guard rails on the hog fuel feeder track. This guard, installed adjacent to the wheel, elminates track jumping and saves on the cost of labor and material in maintenance.

Developments in the Manufacture Of Solid Fibre Weatherproof V-Cases

By H. L. RAMMER*

THE manufacture of weatherproof solid fibre board presented two problems to the producer; first, the necessity for using a water-resistant adhesive to combine the 3, 4, or 5 plies that make up the finished solid fibre and second, the need for a much greater degree of water resistance in the board itself.

The adhesive problem was something new and in a field with which the fibre board manufacturer was none too familiar. The time honored adhesive, sodium silicate, not only lacked water resistance in itself, but is so highly alkaline that it destroys the water resistance of the board gained by the addition of rosin sizing. The newer starch adhesives that had begun to replace sodium silicate some time ago, are also alkaline, but not sufficiently so to do appreciable harm to the rosin sizing in the several plies of the board. But ordinary starch adhesives, if anything, have even less resistance than sodium silicate to dissolution after immersion in water. Accordingly, much of the work done towards developing the weatherproof case was centered around the water-resistant adhesive used to laminate the plies of paperboard that comprise the heavy fibre as you see it in the finished case. For that reason much of the discussion here will be taken up with that phase.

Imparting the required degree of water resistance to the board itself, the second problem, did not prove so difficult, simply because the board manufacturers were on familiar ground. However, it was not easy, and it is doubtful if any of them are wholly satisfied with their finished products even though they pass present specifications. Possibly because it seemed less urgent than the adhesive problem, it has suffered somewhat. Unless corn starch continues to become less available we shall consider the adhesive problem as closed and shall devote our energies towards further improvement of the water resistance of the board.

The attempts to make weatherproof board early in 1942, and the board itself, can be passed over lightly. The specifications then were built around a 2½ hour immersion period—not the present 24 hour test. Even so, the board was not produced with ease. The governmental and military agencies soon found that this "weatherproof" board was far from adequate for the service required and new specifications resulting in the present "V" cases, were drawn up.

*Chief Chemist, Fibreboard Products Inc.

Specifications Were High

● These new specifications were stringent enough to indicate at the outset that there could be no more "fooling around," no further attempts to somehow use sodium silicate or alkaline starch or mixture of alkaline starch and asphalt emulsion. It also was plainly evident that for the V-1 and V-2 case, the board must, in addition to a high percentage of rosin sizing, have a water impervious membrane of some sort on or near both surfaces. The water-resistant adhesive, however, was paramount. Fortunately, such an adhesive had been developed several years before for a solid fibre beer case and similar containers in which water resistance was necessary. It had not been adopted for reasons of economy and for lack of any feeling for its necessity for the purpose. We would like to add that had users been found, it is more than likely they would have quickly found dozens of reasons for never using the adhesive again.

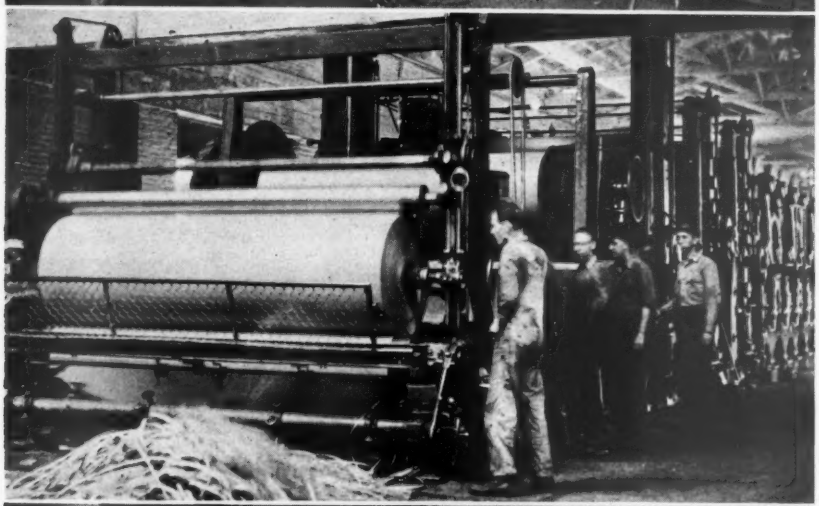
The adhesive now used in all weatherproof board is a mixture of dextrinized starches (without the usual addition of borax and soda ash), a water soluble urea-formaldehyde resin, and a so-called catalyst, usually ammonium chloride. The "catalyst" is capable of breaking down to form acid, which is required to render the resin water insoluble during a curing period of several days after the plies have been combined. Since the starch and resin apparently form a loose complex, the curing of the resin, which comprises 10 to 20 per cent of the dry adhesive substance, makes the whole mass insoluble. Curing of the resin is brought about not only by time and acidity, but by temperature as well. Once the adhesive has been prepared it must therefore be used within a relatively short time, the pH (degree of acidity) must be continually adjusted to prevent its dropping too low, and the cooked starch must be cooled before the resin can be added. If one of these precautions is neglected the adhesive will rapidly become a semi-solid rubbery mass that can only be removed from tanks and pipe lines the hard way. A formidable picture, particularly for plants without laboratory facilities, but a practice that is, as far as we know, followed by all users of the starch-resin adhesive.

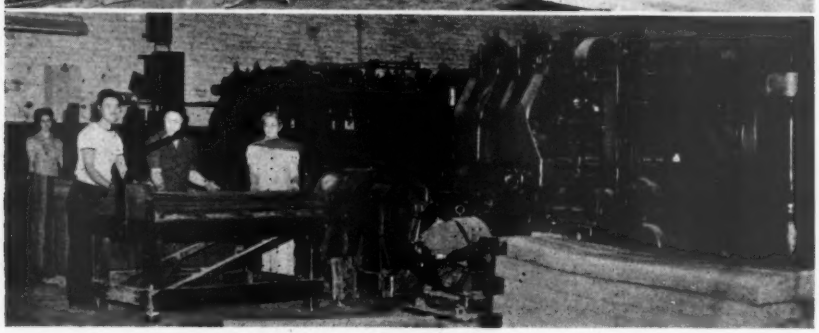
Three Discoveries

● We were not content to accept the burden involved in using this adhesive. We had heard too many accounts of the mishaps experienced by others. Before attempting any plant runs, a first-hand investigation was made at a mid-Western plant who had begun making weatherproof board, and long discussions were had with technical men in the starch industry familiar with the problem. All this only served to confirm rather than alleviate our fears concerning the difficulties involved. We then began experimenting in the laboratory and our efforts here proved most fruitful.

We made what we considered to be three discoveries. First, we learned that 10 per cent resin (on the weight of the dry starch) was sufficient to give the adhesive all the needed water resistance. Five per cent showed some effect, while 15 and 20 per cent showed no improvement over 10 per cent. Second and most important of all, we found that resin concentration was the real factor controlling adhesive life. And third, that everything about the preparation, properties and use of the adhesive could be accurately determined from laboratory tests on eight ounce batches.

Our laboratory experience with resin concentration was briefly as follows: With 20 per cent resin in the adhesive at a temperature of 160°-170° F., and brought to a pH of 4.0-4.5, the glue life was 10 minutes or less; that is, it set to an unusable rubbery mass. With 15 per cent resin and under the same conditions, the life of the glue was increased to 20 minutes. At 12½ per cent resin the tendency to set to a semi-solid disappeared, but the adhesive gradually thickened, reaching a consistency within possibly 45 minutes where it was no longer us-





FIBREBOARD PRODUCTS INC., HAS DONE AN OUTSTANDING JOB IN DEVELOPING A HIGH GRADE SOLID FIBRE V-CONTAINER, as described in the article on these pages by H. L. Rammer, Chief Chemist of the company. Its accomplishments have brought great credit to the Pacific Coast pulp and paper industry.

These photographs show the steps in production of various war products at the Stockton, Calif., division of Fibreboard, where most of the laboratory and other development work by this company was done.

BREAKER BEATER. First step in the making of paperboard products, the beaters disintegrate and dissolve the stock and start it on its way.

●

BOARD MILL. Over the dryers and calendars, down into rewinders for rolls, or cutter boxes for sheets, flows a continuous stream of board, completing its first cycle of production in its journey to become cases and cartons to serve the war effort.

●

PASTER. The pasting machine automatically pastes rolls into the prescribed thickness, cutting to corect sheet size for cases, and again sends the board along for the next operation.

●

COMBINATIONS. Printing, creasing and slotting, the combinations machines speedily convert the pasted sheet to a case. In the foreground a sheet is just being ejected by the machine.

●

VIEWS OF STEPS in V-Container manufacture at Stockton are continued on Page 14.

able. At 10 per cent resin all adverse effects disappeared completely. We made a number of laboratory batches with 10 per cent resin and held these on a steam bath at 190° F. for several days, during which time the pH dropped to 3.5 and as low as 2.7. After all this the adhesive had not thickened abnormally and when used to paste small board samples cured fully and in a normal manner.

Our adhesive at first was made by cooking the starch paste (32.5 per cent starch) with direct steam to 195° F., adding the resin at once and after mixing adding 13 per cent (on the weight of the resin) of ammonium chloride with enough water to make a slurry. Later we found it would be more convenient to cook the resin and starch together. After more laboratory tests to verify the feasibility of this plan, the practice was adopted and has since been followed. We have on occasion added the ammonium chloride prior to cooking with satisfactory results. No attention is paid to pH, which is around 5.5 in freshly made adhesive and drops in a few hours or less to about 4.0 and occasionally as low as 3.2. We have never found it necessary to throw away any adhesive, nor have we made any solid fibre board that was defective because of the adhesive.

Adhesive Exceeds Hopes

● Several months after we had begun making weatherproof board, the American Bitumuls Company of San Francisco asked us to try a mixture of their asphalt emulsion, "Bitusize A-3," and the starch resin glue. For the first "weatherproof" board made to pass the 2½ hour immersion test mentioned above, an adhesive consisting of alkaline starch and "Bitusize A-1" had been used. With the adoption of the new specifications, asphalt emulsion was out. It had not lent any appreciable water resistance to the starch, but it had proven to be a satisfactory diluent or extender. The starch supply had now become critical, and perhaps asphalt emulsion could prove helpful again as an extender. With this in view "Bitusize A-3," an emulsion especially developed for use with acid starch adhesives, was given a trial. Because of the thickening action of the "Bitusize" on the starch-resin paste, it was necessary to use a more fluid starch, although no change was made in the concentrations of starch, resin, or ammonium chloride. This involved more experimenting, but the "Bitusize"—starch-resin adhesive far exceeded our expectations. Consisting of 35 per cent "Bitusize" by volume and 65 per cent of starch - resin paste, it had appreciably more tack than the straight starch-resin adhesive and reduced the quantity of defective stock from improper pasting. It proved to have a better spread by 15 per cent, that is, 85 volumes of the mixture did the work of 100 volumes of straight starch-resin adhesive. And what was least expected, the water resistance of the adhesive was decidedly improved.

Because nothing has been said to the contrary, readers of this article have undoubtedly presumed that the starch-resin adhesive was entirely satisfactory. It did pass the specification "no voluntary ply separation after 24 hours immersion — — —," but much of the board, regardless of where it had been made, could be separated at the glue lines with very little effort. It was a situation that the producers of weatherproof board feared. The term "voluntary separation" was weak and ambiguous and would eventually be corrected. "Bitusize A-3" was the answer to this, for we found that its addition to the adhesive resulted in practically complete prevention of ply separation after immersion. We do not believe that this is due to the asphalt as such; our observations indicate that the emulsified asphalt particles are only so much filler, and if it were not for the stickiness or tack of the asphalt, it could be satisfactorily replaced by any inert filler such as clay. The exact composition of "Bitusize" is secret, and we can only surmise that it contains a protein as a protective colloid which enters the starch-resin complex to further improve water resistance. So much for the adhesive problem, and now back to the problem of water resistance in the board itself.

K. B. Board Economical

● As we stated at the outset, the specifications for V-1 and V-2 cases, particularly the former, are such as to require a waterproof film of some sort—a "raincoat"—near both surfaces of the board. Most manufacturers have had to use asphalt laminated paper as outer liners, an obviously costly addition. We were fortunate in that we were manufacturers of "K.B." board, a paper board carrying an integral film of asphalt, applied as a water suspension while the wet fibre is being formed into the sheet of board. Obtaining adequate water resistance in the solid fibre board was therefore relatively simple, once the adhesive problem was solved and facilities for increasing and controlling water resistance through the addition of rosin size, were set up. The use of K.B. outer liners and heavy sizing throughout plus the use of the Bitusize-starch-resin glue completed the picture for our V cases.

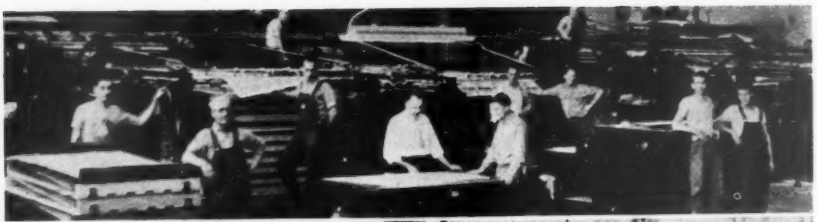
"Bitusize B," another product of American Bitumuls Company, is also an asphalt emulsion, and was especially developed as a superior substitute for rosin sizing in weatherproof board. It has not only proved to be that, but when so used, eliminates the need for a "raincoat." Sufficient emulsion is added to the stock in the beaters to give an asphalt content of 10 per cent in the board. The addition of alum to maintain a pH of 4.5 in the vats will assure practically complete retention of the asphalt. When making the board, the first and last cylinders, that is, the top and bottom liners, carry no asphalt, only the usual quantities of rosin size. The use of the asphalt-free outer plies avoids fouling of the felts, press rolls, etc. This "Bitusize B" board when laminated with water-resistant adhesive to form solid fibre meets the weatherproof specifications as satisfactorily as the standard rosin sized stock with the "raincoat," principally because of the ability of the asphalt to impart a high wet strength. "Bitusize B" in addition does not decrease machine speed to the extent that rosin sizing does, and the asphalted board has an appreciably higher bursting strength. Broke and box shop scrap are as readily re-used as any hard sized stock.

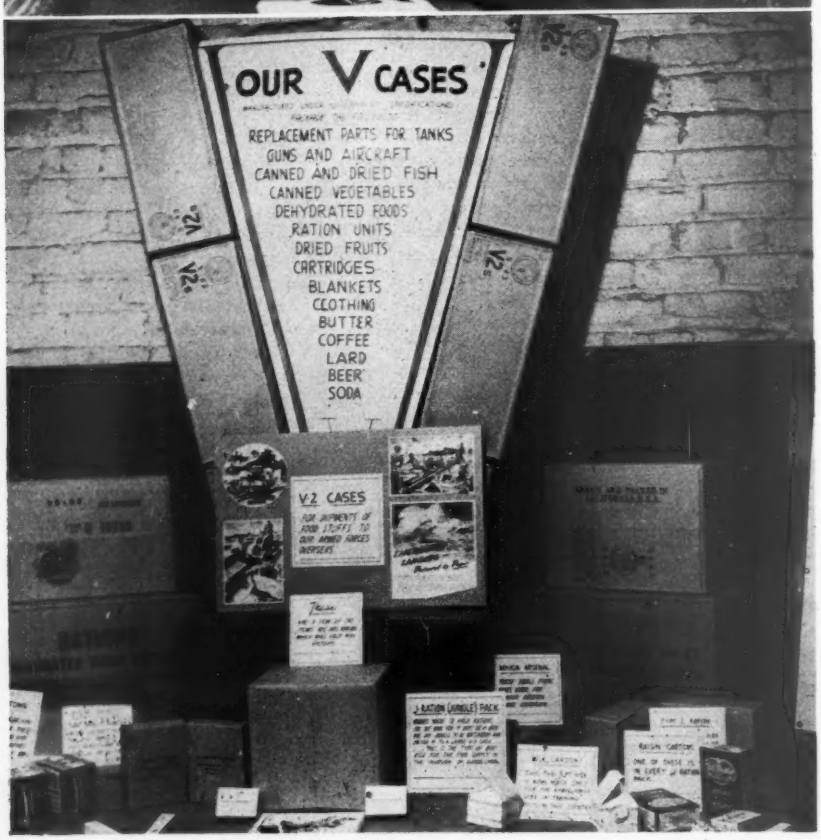
Although our cases meet the specifications, we sometimes wonder if the specifications always meet actual conditions. Under present circumstances, authoritative data on the adequacy of the weatherproof solid fibre case is practically unobtainable. For such information we have relied on our men who are presently overseas in the armed forces. Wherever possible we have asked them to act as observers of the condition of "V" cases on arrival at their foreign destinations. So far the reports, although meager, have been encouraging.

New Post for McMaster

A. E. McMaster, former vice-president and general manager of Powell River Company, has been appointed associate wood fuel controller for Canada, with headquarters in Ottawa.

Mr. McMaster will serve as right-hand man to J. S. Whalley, national wood fuel controller. Until recently Mr. McMaster served as secretary of the committee supervising disposal of the Japanese fishing fleet in British Columbia.





FURTHER STEPS IN PRODUCTION at the Stockton, Calif., division, Fibreboard Products Inc.:

PRINTING DEPT. Sheets from the board mill are passed along to a battery of Miehle presses, where many famous brand names are imprinted, tho in present production an increasing number are inscribed only with a military insignia or number.

●

GLUERS. The flow of cartons seemingly is unending as they pour into the department where fast machines and nimble fingers complete the final operation, inspectors give them a careful check, and they're on their way to the shipping room.

●

OFF TO THE FRONT. With each carton goes the hopes for victory over the Axis of all who have had a hand in its making. The completed product is trucked into cars which eventually will carry it to all points on the compass. The boxes are made with all the care, skill and expert craftsmanship that can be applied to a container.

●

A display of Fibreboard's war products at the Stockton mill.

●

A major part of the plant's present production is going into the war effort. Included are containers for ammunition, gas masks, parachutes, airplane parts, refractories, blood plasma, soap, rations and many other items in addition to large containers for foodstuffs and other bulky supplies.

●

Paperboard containers are successfully floated ashore to beachheads on our sea and ocean war fronts, permitting quick get-away of cargo ships. They save weight and space in planes and ships and that means less cargo planes and ships must be built in order to win victory.

New Products For the Boxboard Industry

By U. E. WATTS*

THE specification requirements for Government "V" boxes have stimulated research to improve qualities of solid fibreboard and processes for its manufacture. Where customary methods have proven inadequate, new materials and procedures have been devised to place production upon a dependable basis. Two new materials developed by this research and supplied under the trade name "Bitusize" have solved the problems for some manufacturers.

In the early attempts to make weatherproof boards, plants were confronted with the fact that the paper was not sufficiently resistant to water to retain strength under the severe conditions of service, and the adhesives used were inadequate to prevent delamination when wet. "Bitusize B" was developed to improve water-resistance of the paper stock; and "Bitusize A" was found to improve the water-resistance of the adhesive. Both of these new materials are now in regular use in products which consistently meet the requirements for "V" board.

"Bitusize A" (Water-Resistant Extender)

● The demands for delamination resistance in solid fibre cases brought combinations of starch and heat-hardening synthetic resins into general use as adhesives. In these combination adhesives, the starch furnishes the immediate tack, to be followed by the more or less permanent water-resistant adhesion furnished by the urea-formaldehyde resin. A period of curing of the pasted board at suitable temperature in the presence of a catalyst develops the final bond. Although board pasted with such adhesive withstands prolonged immersion in water without delamination, the adhesive is somewhat brittle and delamination often results from rough handling or other flexing of the wet board. The starch-resin adhesive is considerably more expensive than adhesives used for board which does not require weatherproofness.

"Bitusize A" is a colloidal suspension of a special bituminous product in water. It is handled in liquid form in drums and tank cars, and is added as an extender to starch and starch-resin adhesives. Its function is threefold; it substantially extends these critical adhesives; it increases the adhesives' resistance to water; and it adds a beneficial degree of plasticity to the adhesive after drying. Its use brings the cost of adhesive back to former range where starch alone was used. The grade which is of chief interest at present is particularly designed for use with acid starch and urea-formaldehyde resin adhesive blends.

"Bitusize A" may be used in several ways, the simplest of which is to add it to an already prepared adhesive of starch, resin and catalyst. If preferred, it may be added to the starch and water and cooked up with them. Or it may be added after the starch is prepared, thus serving to cool the starch paste prior to the addition of the resin and catalyst, which is the method of use in most plants. The blend consists of 60 volume per cent of the preformed starch-resin-catalyst paste and 40 volume per cent of "Bitusize A."

"Bitusize A" has a solids content of about 60 per cent, and as this is greater than the usual starch-resin paste, its addition raises the solids content of the final blend. Viscosity of the regular paste is not much altered, although it is advisable in some cases to add from one to three per cent of water to adjust the viscosity to suit paster operation. Its use requires no changes on any paster which has been adjusted to apply pastes of the starch-resin class.

Benefits from use of "Bitusize A" are reported by users as follows:

1. On a paste volume basis, the substitution of 40 volume per cent of "Bitusize" for an equivalent volume per cent of the paste formerly used, directly reduces requirements for both starch and resin by 40 per cent. Stated otherwise, the volume of paste from given amounts of starch and resin is increased by two-thirds.

2. The paste containing "Bitusize" has a higher solids content and stands out better on the board, allowing it to spread farther on the paster, volume for volume. The reduction in paste volume used averages about 15 per cent less than for paste without "Bitusize." Thus, the addition of "Bitusize A" results in savings of nearly 50 per cent in starch, resin, and catalyst.

3. "Bitusize A" allows pasters to be operated at higher speeds, thereby increasing production.

4. The starch-resin-"Bitusize" paste is less critical to viscosity, which results in reduction of percentage of rejects due to variations between individual batches of adhesive.

5. In board, the glue line better resists both voluntary and involuntary delamination during and after immersion.

6. The board cures out and develops waterproofness at the same rate as without "Bitusize A," and because of containing less water in the glue line, has less tendency toward ragginess prior to complete curing.

7. Substantial cost reductions for adhesive are realized by "Bitusize A" users.

The present critical shortage of starch adhesives makes the reduction in these requirements especially important at present. The other benefits are given different value ratings by different operators, depending on their stock, type of equipment used, and former difficulties.

"Bitusize B" (Water-Resistant Internal Sizing)

"Bitusize B" is also a collodial suspension of special bituminous products in liquid form, but differs radically from "Bitusize A" to meet an entirely different set of conditions. "Bitusize B" replaces sizing materials customarily added to the beater as internal size for paper stocks. It accomplishes a better job of waterproofing, and users' reports are enthusiastic in this regard.

After an experimental period in the laboratory and some trial runs in paper plants, it was discovered that only the bitumens from certain restricted sources could be manufactured into bituminous size having the characteristics which make it safe to use in commercial production. The "Bitusize B" product as now developed is in regular and continued use at several plants, and favorable reports are being received in regard to high quality of Bitusized products made therewith.

"Bitusize B" differs from other forms of size in that it is not in saponified form in any stage of the sizing process. Being a colloidal suspension rather than a soluble solution, it carries through the wet end of the paper machine as a solid, and is precipitated upon the fibre by the usual alum acidification. "Bitusize B" is usually added at the beater to neutral or slightly alkaline stock, and is carried through the various refining processes along with the fibre. The pH is then adjusted to about 4.2 to 4.5, either at the jordan outlet or in the machine chest. Whether liquid or dry alum is used for acidification, the colloidal bitumen precipitates upon the fibres much as would a fine fiiller. In this form its goes onto the machine and because it does not form a coating on the fibres at this stage, it does not interfere with Mullen strength during formation. After the paper passes onto the drying rolls, however, the colloidal or filler characteristic changes. The particles become diffused over the fibre surfaces and are absorbed by the fibre itself, resulting in the high degree of water-resistance imparted by bitumen.

The colloidal rather than the saponified nature of "Bitusize B" prevents the formation of foam normally developed in hard size stocks. It is possible, therefore, to greatly increase the percentage of size used without interfering with proper formation of a web. In the manufacture of board for "V-1" and "V-2" cases, 10 per cent of "Bitusize" solids is generally employed. In spite of this high percentage of solids, increases of as much as 25 per cent in machine speed are reported, above the speeds normally used in hard size stock. Speed increases depend on the drying capacity of the machine, but those reported indicate no interference with web formation.

The advantage of using "Bitusize B" as reported by manufacturers of stocks for "V" boxes are as follows:

1. An increase of from 10 to 15 per cent in dry Mullen over that obtainable

*Research Engineer, American Bitumuls Co., San Francisco, Calif.

with the same furnish when sized with rosin.

2. Increases in wet strength averaging 100 per cent and better.

3. Increased production rate due to elimination of foam and slimes.

4. Dependable uniformity of finished board.

5. Greatly increased wet box strength and drop resistance. Due to adequate throughout sizing, less corner weakness develops at the score where weakness normally develops through water entry, even in raincoated boxes.

6. Substantial savings in critical high-strength pulps otherwise necessary to meet high dry and wet strengths.

Beneficial results now being obtained by members of the industry who are using these relatively new products are outlined in Mr. Rammer's articles which appears on page 11. Board companies now using the products have indicated willingness to furnish information on their experience, both as to methods followed and results obtained. The maker of "Bitusize" materials offers laboratory service and technical assistance in plant runs to paper and board manufacturers who may be interested.

Longview Fibre Company Puts Victory Box Through Rigid Test

VICTORY BOXES — the now well known V shipping containers—will comprise a major portion of the production of Longview Fibre Company's plant in Longview, Wash., during 1943. Four grades of these containers are made at the Longview plant and strict government specifications require severe tests of the boxes and the board from which they are made.

Three of the four grades of Victory Boxes are of solid fibre and designed for export shipping. The fourth grade, designed for domestic use, is made of corrugated board. They are referred to as V-1s, V-2s, V-3s and V-3c, respectively.

The boxes vary by types in the requirements set up by the government. A table of these requirements appears on this page.

The Mullen tests are in pounds per square inch to burst the sample, and the requirements of 750 pounds dry and 500 pounds wet for the V-1 container are extremely high for this kind of box. The V-2 container, it will be noted, has the same wet strength as the V-1, though not requiring the same dry Mullen.

Samples for wet Mullen and delamination tests are cut from laminated board sheets taken at the box making machine. Samples are cut to 6 x 10 inches and are conditioned at constant temperature and humidity for a period of time sufficient to bring them to the required condition. Fifty to 70 per cent relative humidity is specified.

Holders are used in which to place the samples for conditioning and, still in these holders, the samples are immersed in water at 72 degrees F. for a period of 24 hours. They are then removed and the excess moisture taken off with absorbent paper towels. Examination for delamination is then made with a maximum of ¼-inch of separation of the layers from the edge of the piece being permitted.

An electric Jumbo Mullen tester is used and each sample is popped once from each side.

The caliper and dry Mullen tests are made with sister samples, conditioned in the same way with the exception of the soaking, and all results are expressed as averages.

Dropping Tests

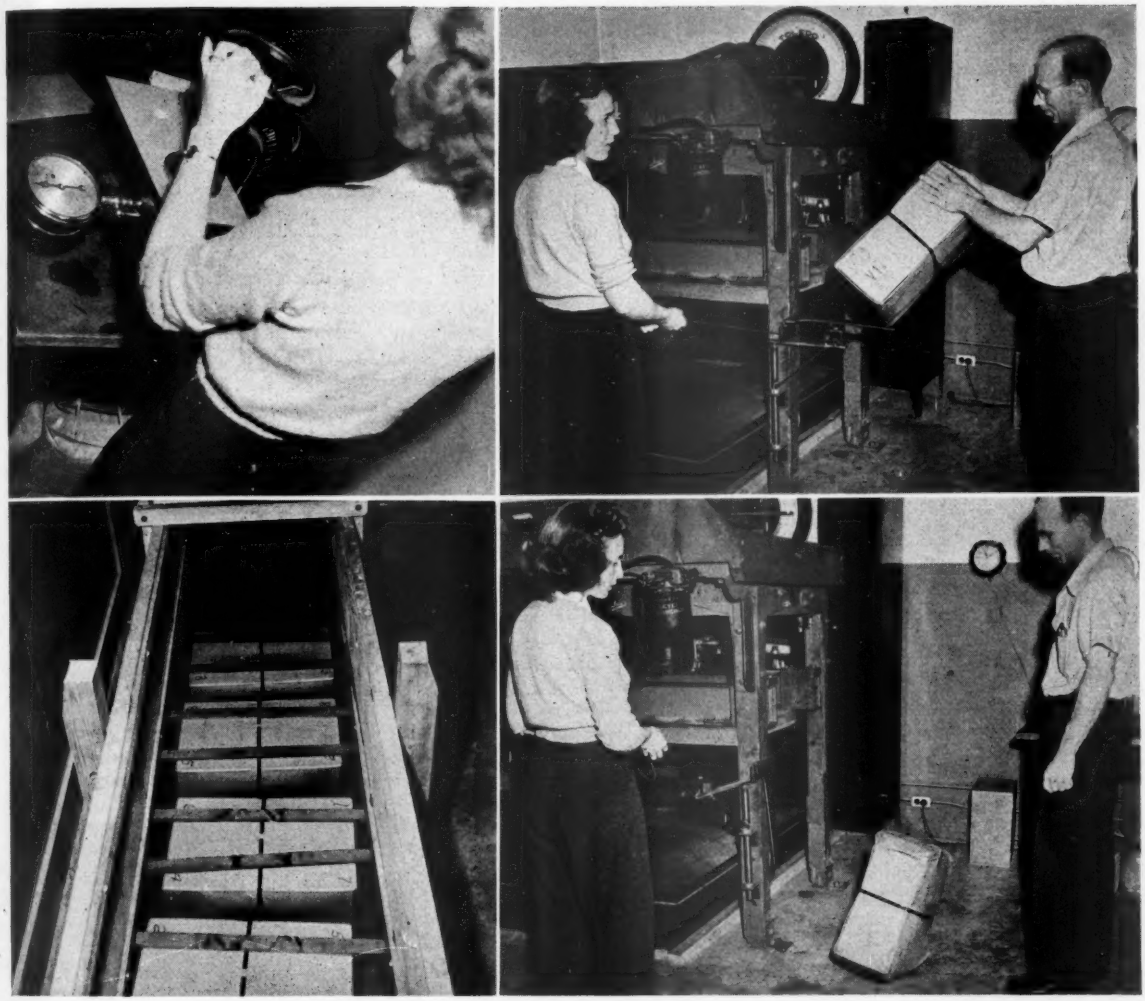
For the dropping tests, the Victory Boxes are filled with cans of asphalt, sealed with waterproof glue,

V-CONTAINER REQUIREMENTS

Type	Minimum caliper in inches	Mullen dry(1)	Tests made after 24 hrs. immersion in water at 70-80° F. Wet Mullen(1)	Falls(2)	Delamination
V-1s	.100	750	500	12	¼ inch
V-2s	.090	550	500	8	¼ inch
V-3s	.090	400	150	....	¼ inch
V-3c	.023 facings .010 corrugation Medium	400	150	....	¼ inch

(1) Lbs. per sq. in. to burst sample.
(2) 30 ft. to concrete. Box filled with cans of asphalt.

MRS. JEAN BORNSTEDT, Tester in the Box Factory, WITH A V-1 CONTAINER MADE AT LONGVIEW FIBRE COMPANY. This photograph shows the sleeve construction of this box. The printing on the box states that it is a Grade 1, Type S container and complies with specifications of the Navy Department.



LONGVIEW FIBRE COMPANY AT LONGVIEW, WASH., IS PRODUCING A HIGH QUALITY of V-1 Container, capable of following our fighting forces anywhere, under any conditions. It passes the most rigorous wet and dry strength tests. Tests shown in these pictures are being made by JOHN F. HART, Chief Chemist, and MRS. JEAN BORNSTEDT, Tester. Upper left—Mullen test of samples of the laminated board from which the V-Containers are made. Wet and dry samples are tested.

Lower left—The containers are soaked for 24 hours in this tank of water before the highly successful wet strength test. V-Containers are floated ashore to U. S. army and marine outposts.

Upper right—The soaked V-Container is held on the metal arm by Mr. HART while Mrs. BORNSTEDT waits to trip the lever which will let the box fall on one corner.

Lower right—The box is dropped numerous times on its corners on this concrete floor. There is no "failure" recorded unless an edge opens full length or any contents are spilled.

a sleeve placed around the box, and the box and sleeve bound with a wire strap around the center. The boxes are immersed in water at 70 to 80 degrees F. for 24 hours and at the end of this period are put through the dropping test.

In the drop tests, the box is placed on the corner on a small platform, 30 inches above the concrete floor. A lever trips the platform and the box drops on its corner. The box is turned and dropped on all its corners and the dropping continues for the specified number of times or until a failure results. A failure is considered as having occurred when one edge has opened full length or any part of the contents of the box has spilled.

The sleeve, mentioned above as part of the assembled box, is made of similar board to that of the box which it covers, and apparently is not required on all types of actual service of the box.

These super-boxes are following our armed forces wherever they go. The V-1 container is designed to go overboard from a transport and be floated ashore with its contents intact and to withstand the destructive humidities of the tropics.

Colonel DeLong's Article Helped This Mill

● One of Washington state's pulp and paper mill managers recently declared that the article by Col. Walter J. DeLong, Washington State Director of Selective Service, in the March issue of PACIFIC PULP & PAPER INDUSTRY "did more than any other one thing in the past year to hold the men" in his mill and keep them from drifting to other industries. Colonel DeLong's article, written especially for this magazint, stressed the essentiality of the pulp and paper industry.

This statement of the mill manager was made to Lt. Commdr. Chester J. Chastek, Navy Selective Service Occupational Advisor and one of Colonel DeLong's principal aides.

Shibley Award Again Offered By Coast Section of TAPPI

● Plans for a much restricted wartime program of meetings for next fall and winter were made by the executive committee of the Pacific Section of TAPPI at a meeting in Portland on July 15.

Tentatively only two dinner meetings for the 1943-44 term of the present administration were planned. It was proposed to hold one meeting in Camas, Wash., in October and one in the Puget Sound area in February, at some city to be selected later. If wartime conditions do not prevent it, the annual election meeting would be held in Portland, Ore., next June.

The Shibley Award for the best paper prepared during the year by men actively working in the pulp and paper mills of the Pacific Coast territory will again be offered. This award of $50 was first suggested by the late Kenneth Shibley to encourage and assist younger men in the industry.

Anyone planning to enter a paper should submit the title and brief resume of the paper to Erik Ekholm, Puget Sound Pulp & Timber Company, Bellingham, Wash., by September 1 or earlier if possible. Mr. Ekholm is vice chairman of the Pacific Section of TAPPI and chairman of the program committee.

All papers must be submitted to the vice chairman Section in quadruplicate and will be judged by the officers and Executive Committee of the Pacific Section on the following points:

1. The amount of interest shown at the meetings where the paper is presented.
2. Presentation.
3. Technical value.

Papers should be in the hands of the vice chairman at the earliest possible date in order that the program for the meetings may be arranged to the best advantage. Judges will reserve the right to select the papers to be presented from those submitted.

Papers submitted and not presented at one of the meetings will be considered for publication in PACIFIC PULP & PAPER INDUSTRY. As is customary, the papers presented at the meetings also will appear in this magazine.

Mr. Ekholm stated that he would appreciate receiving suggestions and ideas for the programs of coming meetings. This magazine will gladly forward any suggestions and ideas to him.

The executive committee members, all of whom were present at the Portland meeting, are C. A. Enghouse, of West Linn, Ore., chairman of the Pacific Section; Mr. Ekholm; R. M. True, of Portland, secretary-treasurer; W. F. Holzer, of Camas, and Edward P. Wood, of Longview, Wash.

New Los Angeles Manager Is Veteran Paper Man

●J. K. Hays, who became resident manager of California-Oregon Paper Mills, 2001 E. Fifty-seventh St., Los Angeles, Calif., last spring, comes as near to being a dyed-in-the-wool paper man as is usually encountered. His entire business experience has been in the paper industry, which he entered soon after graduation from the University of Kentucky in 1925, and he has never held any other kind of position.

As things worked out, Kentucky did not hold Mr. Hays after his college days. Florida beckoned, with a job in the sales department of Graham Paper Company in 1926 as his initial duty and southern Florida as his sales territory. At that time the Graham company operated a fruit and vegetable wrap plant in Tampa, and Mr. Hays became its sales manager in 1930. He was made general manager in 1937; and when later the plant was purchased by Columbia River Paper Mills, Mr. Hays continued with the new owners. He joined the California-Oregon firm last March and moved to Los Angeles.

The plant in Los Angeles produces vegetable parchment, waxed and sulphite papers. It is the only plant west of the Mississippi River making vegetable parchment. This product is marketed under the brand Pacific Vegetable Parchment and is shipped to all parts of the United States, as well as exported to other countries. Waxed and delicatessen papers are produced under the brand Grief Proof.

Wage Conference Again Postponed

● By arrangement between the co-chairmen, the annual Wage Conference of the Pacific Coast Association of Pulp and Paper Manufacturers and the International Brotherhood of Pulp, Sulphite, and Papermill Workers, and the International Brotherhood of Paper Makers has been postponed to a date which is to be agreed upon later.

After meeting for the first five days in June in Portland, the conference was recessed to July 27. A further postponement however, was decided upon some days before this date. At the June meeting it was mutually agreed upon that the present contract will continue in full force and effect and that any wage adjustments finally agreed upon and approved by the War Labor Board would be retroactive to June 1, 1943.

ON THE COVER

● is a boom of hemlock and balsam logs from the Port Harvey area of Canada at Powell River, B. C. In the background is the big Powell River Company mill (24-hour day capacities: groundwood pulp, 656 tons; unbleached sulphite pulp, 155 tons; newsprint, 720 tons).

Walking over the boom is Angus P. McBean, Assistant Forester, Forest Branch, Department of Lands, Victoria, B. C. The picture was taken by Earl C. McNary, Official Scaler, for British Columbia Forest Branch. It was made on high speed film at noon at 1/100 second exposure with the lens stop at f. 22.

Articles in the July issue and in this issue describe an experiment in salvaging pulpwood from logged off lands at Ladysmith, B. C., which is being undertaken by the Powell River Company and Comox Logging & Railway Company, with the cooperation of the provincial government. Mr. MacBean represents the government at the Ladysmith operations. These operations have been described by industry leaders as of far-reaching importance to the industrial future of the Pacific Coast. Powell River, Comox and the British Columbia government are jointly underwriting the experiment under a gentlemen's agreement. However, analysis of the salvage already indicates it will be successful economically.

This picture was taken before any pulpwood from Ladysmith had arrived at Powell River.

Small Mill Machine Shops Show Good Records on War Work

● The Pacific Coast Association of Pulp & Paper Manufacturers, in its month-by-month reckoning of the war work in the machine shops of member mills, figures its standings on a percentage basis. Thus, some of the mills with less equipment, perhaps only two or three prime tools, have a chance to rank as high as mills which are much better equipped.

Among the 29 mills participating in the program, the small Crown Zellerbach mill at Lebanon, Ore., the Rayonier mills at Hoquiam and Port Angeles, Wash., and the Fibreboard mill at Port Angeles have stayed up near the top month after month, even though their opportunities for doing the war work have been greatly limited by equipment.

A typical example of this spirit has been shown at Fibreboard Products Inc., Port Angeles, where a single lathe is kept in action on sub-contracts for shipbuilding firms on two night shifts. E. J. Cavanaugh, resident engineer, has hustled to get the work and he has trained an ex-machine tender and an ex-finishing room employe to help in putting it out.

This mill has machined numerous couplings for watertight doors on landing barges, it has turned out more than 2,000 welding flanges for the U. S. Navy and it has machined nearly 1,500 castings for gear reducing units. Without claiming to be geniuses in any sense of the word, the men have shown resourcefulness by making all kinds of jigs to improve their efficiency. For instance, they set up jigs to machine the outsides of eight flanges at once and to drill through eight flanges at a time.

Mr. Cavanaugh has been pretty much on his own although he is only too glad to give credit to Meder Johnson, who is in charge of procurement of the machine shop work for the other five Olympic Peninsula mills, for turning some work over to the Fibreboard plant. The activities of Mr. Johnson, resident engineer at Rayonier Incorporated, Port Angeles, and the other five mills were described in the July issue of PACIFIC PULP & PAPER INDUSTRY.

In proportion to its facilities, Fibreboard at Port Angeles is keeping up with the big machine shops of Fibreboard at Stockton, Antioch and Vernon, Calif. The Sumner, Wash., mill also shows a fine record, and the entire Fibreboard results show better than 115,000 man hours since the machine shop war work was undertaken in May, 1942.

Mills Increase Machine Shop War Work

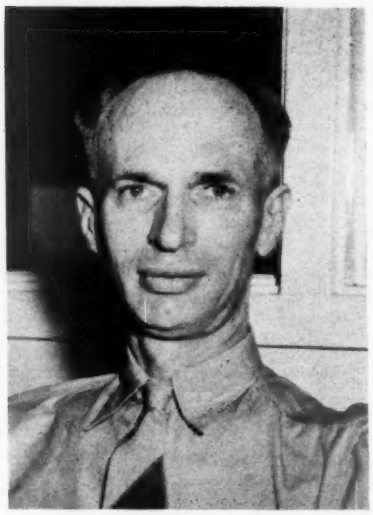
● Machine shop crews in 29 participating Pacific Coast mills of the United States have been steadily increasing their unusual war work program—turning out vital machinery and equipment parts for U. S. Navy and Maritime Commission ships.

Since the program was launched by the Pacific Coast Association of Pulp and Paper Manufacturers, 13 months' records to July 1 show a total of 932,102 man hours given to this work—probably more than twice as much time as was given to plant maintenance. Total value of the machine shop work to July 1 was estimated at $4,700,000. Man hours and value of the work during March, April, May and June of this year was nearly twice that of the first four months.

MILL MACHINE SHOP WORK

Month, 1942	Hours On Prime Tools	Hours On Floor Work (Assemblies, etc.)	Total Hours
June	32,257	13,430	45,687
July	31,165	13,478	44,643
August	35,480	24,021	59,501
September	37,687	29,540	67,227
October	41,381	32,935	74,316
November	37,815	33,778	71,593
December	36,689	36,815	73,504
Total Last 6 Mos. of 1942	**220,217**	**170,567**	**390,784**
Month, 1943			
January	38,246	25,395	63,641
February	35,920	32,834	68,754
March	42,704	50,509	93,213
April	41,718	52,519	94,237
May	41,276	51,516	92,792
June	39,625	43,369	82,994
Total First 6 Mos. of 1943	**239,489**	**256,142**	**495,631**
TOTAL 13 MOS.	**491,963**	**440,139**	**932,102**

Edwards Appointed Plant Engineer



M. LOWELL EDWARDS, NEWLY APPOINTED PLANT ENGINEER at the Longview, Wash., mill, Pulp Division, Weyerhaeuser Timber Company.

● The appointment of M. Lowell Edwards as plant engineer at the Longview, Wash., mill, Pulp Division, Weyerhaeuser Timber Company, effective July 1, has been announced by W. N. Kelly, the mill manager.

Mr. Edwards succeeds D. K. MacBain, who left Longview to become chief engineer of Berst-Forster-Dixfield Company, New York City, a subsidiary of Diamond Match Company.

Mr. Edwards has been on leave from the Pulp Division, Weyerhaeuser Timber Company, since October 1942. He is engaged at the California plant of the Western Gear Works and is working on the development of aircraft fuel pumps for the use of the U. S. Army Air Forces. The Western Gear Works is a Washington corporation with the home plant in Seattle.

It is expected that several months will be required for completion of this work, whereupon he will return to Longview to actively assume his new duties.

Mr. Edwards laid the foundation for his technical knowledge at Oregon State College, where he was graduated as an electrical engineer in 1924. For practical training, he went to General Electric at Schenectady, N. Y., spending three years there, six months of which was in the division handling pulp and paper problems. Then he temporarily pigeonholed his engineering career for two years of banking at Tillamook, Ore.

In 1929, he went to the Bingham Pump Company, Portland, Ore., and by the following year had risen to be chief engineer, a job he held until 1937. This was the year he joined the Weyerhaeuser Timber Company Pulp Division at Longview.

Four Camas Men Called

Frank Humm, electrical department, and Clyde Laber of the office, are leaving for the Navy from the Camas mill, Crown Zellerbach Corporation, and the army is calling Ronald Butler of the wood mill and Carl Sawyer of the beater room.

Paper Mill Men's Club Plans Annual Hi-Jinks

● The July 22 meeting of the Paper Mill Men's club of Southern California, held at the Oakmont country club, Glendale, Calif., was devoted mainly to discussion of plans for the organization's annual invitational golf tournament and Hi-Jinks, its big event of the year, scheduled for Friday, September 24 at the Riviera country club.

After the customary session of golf, some 30 members gathered for dinner. J. Dwight Tudor, Fibreboard Products Inc., presided at the meeting which followed. With him at the speakers' table were, A. A. Ernst, Pulp & Paper Co., vice president; Gerry A. Thiem, Milwaukee Lace Paper Co., secretary, and J W. Genuit, Fernstrom Paper Mills Inc., Pomona, Calif., treasurer.

Newbey A. Green, Crown Willamette Paper Co., general chairman for the yearly event which usually attracts more than 300 guests and members, announced the plans and the committee chairman to serve under him.

The golf and sports tournament will begin at noon, as golfers tee off to compete for the many prizes. This will be followed later in the afternoon by a baseball game and other sports. The annual banquet and entertainment program gets under way at 7 p.m.

Harry L. Fields, National Paper Products Sales Co., will be the assistant general chairman. Various committee chairmen and their assignments are: A. C. Hentschel, John, Carvell & Murphy, finance; Ben Bahnsen, California Cotton Mills Co., Christmas Fund tickets; Louis Levine, Lily Tulip Cup Corp., program; Fred Schroeder, Sealright Pacific Ltd., entertainment; Neil B. Sinclair, Nashua Gummed & Coated Paper Co., reservations; Frank R. Philbrook, Graham Paper Co., golf; Louis T. Mork, U. S. Envelope Co., sports and soft ball; G. N. Madigan, Johnson, Carvell & Murphy, door prizes; and Edward N. Smith, Edward N. Smith Paper Co., director of activities.

A new member was welcomed to the club by President Tudor in the person of Lewis Clark, Protecto Products Co., Inc. A humorous reading by Secretary Thiem on the "take it or leave it" attitude on the part of sellers during these abnormal times, livened the proceedings. Playing a "return engagement" was Arthur W. Ponsford, Southern California editor, PACIFIC PULP & PAPER INDUSTRY, who talked on "Adventures of a Waterfront Reporter." Others present besides officers and speakers already mentioned, were:

Louis Levine; R. E. Walsh, Schermerhorn Bros. Co., G. C. Pierson, John D. Davis Co.; Lester E. Remmers, Crown Willamette Paper Co.; J. Carter Flinn, Sherman Paper Products; J. M. Sholl Lewis, Paper Container Mfg. Co., Jack Maurer, Fernstrom Paper Mills; George C. Wieman, Western Waxed Paper Co.; H. L. Fields; Frederick R. Schroeder; F. A. Van Amburg, Los Angeles Paper & Excelsior Products Co.; Russ F. Attridge, Johnson, Carvell & Murphy; L. Louis T. Mork, U. S. Envelope Co.; B. Bahnsen; A. C. Hentschel; Niel B. Sinclair; G. N. Madigan; F. L. Johnson, Pacific Coast Terminal Warehouse Co.

Packaging Problems Discussed

● In the packaging industry paper is the substitute for all substitutes, but there is no substitute for paper. With current stocks getting scarcer, government requirements growing greater, the industry may expect tighter control, more stringent regulations.

Such was the word brought from Washington, D. C., by Berne Altick, chief, fibre container section, Containers Division, War Production Board, to some 300 container manufacturers, purchasing agents and others concerned with the use of containers at a dinner meeting in San Francisco July 12, sponsored by the Purchasing Agents' Association of Northern California.

Before joining the governmental agency, Mr. Altick was for 18 years with Fibreboard Products Inc., in San Francisco and Los Angeles.

Also from Washington was E. F. Tomiska, deputy director of WPB's Container Division, who voiced similar warning, offered suggestions designed to help avert a more serious situation in packaging critical materials.

Both stressed the fact that the division operates on the theory that everything produced deserves a package, procured up to now with minimum WPB control. It was pointed out that there now is available for containers approximately 20 percent less wood, 22 percent less paper, and 25 percent less glass than is needed for packaging 1943 production. Principal reason, shortage of manpower.

Lending significance to the paper shortage, statistics were quoted showing 55 percent of all present containers are of paper products.

From paper cups to fibre boxes, from drums to milk bottles, paper has become a substitute for almost every type of container, even a direct substitute for steel, Mr. Altick said, and "no one yet ever has put his finger on all the uses of paper."

"Prior to the war, the United States imported quantities of pulp," he declared. "Now the tables are reversed, we must supply the United Nations, so the squeeze comes from both ends."

He said the government now is planning and soon will launch a nation-wide waste paper drive, in an effort to "help relieve a situation growing more serious day by day."

For further relief, buyers, including the government, were urged to plan ahead, not to expect normal production service or normal deliveries.

A CONTAINERS FORUM, SPONSORED BY THE PURCHASING AGENTS ASSOCIATION OR NORTHERN CALIFORNIA, was held July 12 at the Hotel St. Francis, San Francisco. The Association entertained many War Production Board and U. S. Army and Navy representatives at the affair. Wartime uses of all kinds of containers, of paper as well as other materials, were discussed. These photographs, taken at the Forum, show:

Above (left to right): BERNE P. ALTICK, Chief, Fiber Container Section, Containers Division, WPB, Washington, D. C., who is on leave from Fibreboard Products Inc.; CAPT. W. J. HINE, (SC)USN, Officer in Charge, Navy Purchasing Office, San Francisco; LIEUT. JAMES H. HALL (SC)USNR, and DAVID M. MARI, Fibreboard Products Inc.

Below (left to right): E. F. TOMISKA, Deputy Director, Container Division, WPB, Washington, D. C.; M. C. NYSTROM, Assistant General Purchasing Agent, Southern Pacific Railroad, who is President of the Purchasing Agents Association of Northern California, and (grouped at the table) HOWARD CAMPBELL, Fibreboard Products Inc.; EUGENE MIGNACCO, Western Can Company; W. C. HAACK, M.J.B. Company and Western Can Company, and E. J. FARINA, Fibreboard Products Inc.

Draft Board Calls Mill's Key Man

● Selective service is calling Ray Brown, pulp mill superintendent at the St. Helens Pulp and Paper Company on August 9. He has been with the St. Helens organization for over ten years and leaves a critical and important position to fill. Mr. Brown will be 38 years old in September. He is unmarried.

Ed Yawn, general foreman, has been selected to replace Mr. Brown when he leaves for the army.

Simpson Leaves Sorg For Seattle Position

● Herman Simpson, for the past year general manager of Sorg Pulp Company's operations in British Columbia, with head office in Vancouver, is severing his association with that organization, August 15, to go into business for himself in Seattle as a pulp and paper mill manufacturer's representative.

Mr. Simpson's successor has not yet been named, but it is understood he will be an eastern Canadian. Headquarters of the Sorg Paper Company, of which Sorg Pulp Company is the kraft-producing Canadian subsidiary, is in Middletown, O.

Mr. Simpson told PACIFIC PULP AND PAPER INDUSTRY that he was not yet in a position to give details regarding his new office.

Under his general supervision Sorg Pulp Company, installed several new mechanical units, including a new barker manufactured by Fibre Making Process Company; reorganized the sawmill setup which is now under lease to the Nelson Spencer interests, pioneered the use of jackpine for the manufacture of pulp and made various alterations to insure maximum use of logs.

Before joining Sorg Pulp Company, Mr. Simpson spent 15 years at Port Townsend, Wash., with Crown Zellerbach Corporation.

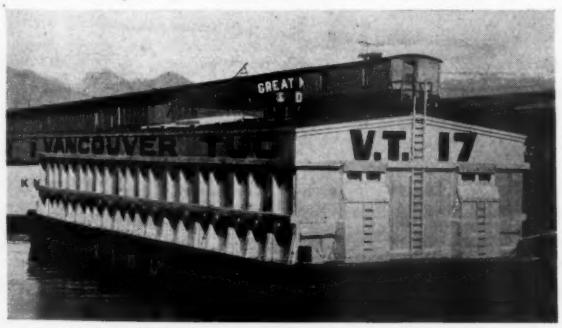
Purves Succeeds Hibbert at McGill

● Dr. Clifford B. Purves, who has had a distinguished career in Scotland and the United States, will succeed Dr. Harold Hibbert as E. B. Eddy professor of industrial and cellulose chemistry at McGill University, Montreal, Canada.

Dr. Hibbert, whose retirement becomes effective September 1, plans to live on the Pacific Coast, where he has had industrial connections for some years. He will continue this activity. He attended the joint Pacific Coast Superintendents-TAPPI meetings in Portland in May and on a tour of the coast met many persons in the pulp and paper industry.

Dr. Purves' appointment is of interest to the industry because he will continue Dr. Hibbert's work in the Pulp and Paper Research Institute, formed three years ago at McGill by the Canadian Government, the Canadian Pulp & Paper Association and the university. His most recent post was as associate professor at Massachusetts Intitute of Technology.

Big Covered Barges Solve Newsprint Shipping Problem



MEETING WARTIME SHORTAGE of shipping facilities, Pacific Mills uses watertight covered barges like this one to transport newsprint.

Covered barges, somewhat unconventional in general design and probably the biggest of their kind on the Pacific Coast, are being successfully operated by Pacific Mills, Ltd., in carrying newsprint from its plant at Ocean Falls to shipping point at Vancouver, B. C.

Originally begun as an experiment more than a year ago, the enterprise now consists of four barges owned and operated by Vancouver Tug Boat Company for Pacific Mills. Similar barges, but smaller in size, have been used for several years by Powell River Company over the considerably shorter distance between Powell River and Vancouver, towed by Kingcome Navigation Company tugs.

Both J. A. Young, vice president of Pacific Mills, and Harold Jones, head of Vancouver Tug Boat Company, say the barges are giving excellent service and that they have adequately met the situation resulting from withdrawal of coastwise shipping from the British Columbia west coast to United States ports. They have weathered the frequently stormy weather of Queen Charlotte Sound without ever losing cargo or suffering damage. A few weeks ago one of the barges was towed all the way to Seattle with a shipment of newsprint for export.

The scows were built at Star Shipyards (Mercer) Ltd., at New Westminster and the houses were installed at McKenzie Barge & Derrick Co., Ltd., Vancouver. Their dimensions are 140 by 42 feet, with draft of 11.5 feet, and carrying capacity of over 1,000 tons. An average cargo is about 800 tons of paper, and during the course of a month the four barges carry approximately 7,000 tons between mill and rail terminal.

Steel hatches at the side and on top provide access to the barges for loading and unloading by crane in much the same way as freight for a cargo ship.

Hallburn is Manager At Southgate Mill

OSCAR HALLBURN, RECENTLY APPOINTED RESIDENT MANAGER, Southgate, Calif., Division, Fibreboard Products Inc. He succeeds L. B. GARLICK, JR., who has retired to his Riverside, Calif., ranch.

● You've heard of a cosmopolitan—now meet one in the person of Oscar Hallburn, recently appointed resident manager of the Southgate, Calif., division of Fibreboard Products Inc.

Born in Stockholm, Sweden, sailing around the world at the age of 16, educated later at the College of Navigation, Stockholm, to emerge with a captain's license, the sandy-haired Fibreboard manager spent 10 early years visiting ports of the seven seas. He started with sail; graduated to steam.

Equally at home in London, Liverpool or European ports; New York, San Francisco or Hongkong, China, Oscar Hallburn today is one of Southgate's first citizens. There he lives with his wife, the former Lady Kathleen Hart, and two children. One of them, Sidney, is in the armed services.

It was at Hongkong that Mr. Hallburn met the daughter of Sir Robert Hart and married her at St. John's Cathedral there. He stayed four years in Hongkong.

Fibreboard was the National Paper Products Company, when he decided to join the organization at San Francisco in 1919, and quit his wandering ways. He began as a sample maker; later became plant foreman.

In 1927 he was transferred to the Southgate organization as plant superintendent; but the wanderlust was not entirely purged from his system because, in 1935, he resigned to make his second visit to Hongkong. There he stayed until late in 1936, and then rejoined Fibreboard as office manager and chief estimator at Southgate. In these capacities he served until his promotion, April 30, suceeding L. B. Garlick, Jr., who retired to his (3389 Santa Ana St.) Riverside, Calif. ranch.

Powell River Studies Need For Whole Log Barker-Chipper

Economic success of log salvaging experiment at Ladysmith, on Vancouver Island, is assured ... Third "peanut-picker" will be put into operation yarding logging debris.

SEVERAL rough spots have yet to be ironed out in connection with the log utilization experiment being carried out at Ladysmith, B. C., and Powell River by Comox Logging & Railway Company and Powell River Company with the assistance of the British Columbia government, but present indications are that it will not only be successful in itself but a significant and revolutionary development for the west coast industry.

Harold Foley, president of Powell River Company, told PACIFIC PULP AND PAPER INDUSTRY this month that he felt confident that the experiment would be an economic success. Mr. Foley said he never had any doubt but that the project would be an interesting one and an effective means of converting logging waste into pulp, but he reserved judgment on the economic aspects. The progress made so far and the cost estimates made by the operators and the government have made Mr. Foley optimistic regarding the over-all prospects.

The logging phases of the experiment, described in detail in last month's issue of PACIFIC PULP AND PAPER INDUSTRY, are now pretty well organized and, for the time being at any rate, a method of shipping the logging debris to Powell River has been determined. How the material will he hauled at the mill is a matter for Harry Andrews, control superintendent, and other officials at Powell River, to decide.

Discussing the project with a representative of this journal in Vancouver, Mr. Foley intimated that Powell River Company would probably install a hydraulic log barker and whole log chipper similar to that already in operation at the Weyerhaeuser Timber Company's pulp mill in Everett, Wash. There may be some difficulty in getting prompt installation of such equipment in wartime and a temporary improvisation may have to be effected, but Mr. Foley believes that a hydraulic unit is a logical development and preliminary studies are being made with that end in view.

Meanwhile all activity in connection with the job is concentrated in the woods near Ladysmith, where Comox Logging & Railway Company is gathering up the debris of recent logging operations preparatory to trucking it down to tidewater.

The possibilities of this experiment are indicated by the fact that on some logging operations as much as 35,000 feet of timber per acre is left after the better logs are removed for sawmill utilization. A good deal of this debris is rated as first class raw material for pulping, and with hemlock at more than $15 per thousand it is not difficult to see where a satisfactory salvage operation might be highly profitable.

Robert J. Filberg, general manager of Comox Logging & Railway Co., figures that on a basis of 250,000,000 feet of timber a year—which is a fair average for his company—there is a good prospect of producing 150,000 cords of woodpulp, or its equivalent, annually, or enough to meet the requirements of a large pulp mill.

Another "Peanut-Picker"

● During the past month a couple of yarding units—or "peanut-pickers" as Logging Superintendent James Sheasgreen calls them—have been cold-decking the debris. These were described in the July issue of PACIFIC PULP & PAPER INDUSTRY. A third unit will be added during August. The first of the peanut pickers has been yarding from its own boom and has been able to cover a radius of 300 feet. The second yarder raises a 90-foot tree and it can yard out six or seven hundred feet; this will be reserved for use chiefly for areas where topographical conditions are unusually difficult. The third unit, with a Chrysler fluid drive yarder, will be similar to the first. Eventually a special cut-up rig designed by John Hoyem of Canadian Western Lumber Company may be installed in the woods. After being loaded, the trucks will roll down the Comox Logging Company's well graded road to the booming ground near Ladysmith.

No material has so far been hauled to water and it may be winter before this phase of the experiment is tried in a big way, according to A. P. MacBean, assistant forester for the provincial government, who represents the government at the operation.

However, a device for preloading has been built and a successful trial has been made. The idea for the preloader may be credited to Mr. Sheasgreen, although construction was in the hands of Vic Dodds, master mechanic, who added a few improvements of his own. The material was loaded in long lengths to a truck regularly used in logging. The cheese blocks were provided with stakes in order to permit a large load to be built up.

At present it is proposed to transport the pulpwood to Powell River, across the Strait of Georgia, in booms of bundles. That is, two wrappers will be placed around each truck load. The load will be lifted from the truck and will be placed in the water intact. These bundles will then be made up in booms, of bundles. That is, two wrappers will be placed around each truck load. The load will be lifted from the truck and will be placed in the water intact. These bundles will then be made up in booms, possibly with cable swifters instead of log swifters.

Those who are running the show continue to emphasize that it's still an experiment, especially in respect to the details of technique.

"We're just feeling our way along," says Bob Filberg. "It's been pretty smooth going so far, but we're working on a trial and error principle. We may make mistakes and if we do we'll find a way to correct them."

Analysis of Pulpwood

Mr. Filberg is as enthusiastic as Mr. Foley regarding the economic possibilities of the undertaking, and this is largely accounted for by the analysis of the cubic measure of Ladysmith pulpwood salvage made by Mr. MacBean for the government.

Mr. MacBean's figures indicate

that the operation will be an economical one, so far as accumulation of the debris is concerned, and Mr. Filberg has no anxiety regarding the relative costs of trucking to tidewater and transportation from there to the mill.

Most of the investigation so far carried out by the government has been with a view to determining the relative accuracy of several different methods of deriving the cubic content of solid wood, and from this a practical method of scaling.

A large sample of logs, ordinarily consumed for pulping, was measured with a view to ascertaining a cubic foot-board conversion factor, which could be employed in fixing a value on the salvage material.

Six hundred and fifty pieces were scaled for feet board measure, B. C. log scale, and for total cubic volume of solid wood from twelve different booms. A ratio of 178.36 cubic feet per 1000 feet board measure B. C. log measure has been derived. At the present market price of $17 per 1000 feet board measure, 100 cubic feet would be valued at $9.53.

The Powell River Company, on the basis of the past year's consumption, has derived a conversion factor of 173-174 cubic feet per M f.b.m. Using a factor of 174, the price per 100 cubic feet would be $9.77.

The provincial government test indicates that the initial yarding costs at Ladysmith are satisfactory. The first four piles decked at the roadside contain 23,964 cubic feet gross scale. The average production per man per day was 470 cubic feet.

Efforts are now being made to determine the recovery per acre and bucking costs.

To the practical logger without pulp mill experience the impressive feature is the relatively high cubic content of pulpwood in the Ladysmith debris. Small logs which would be of little or no value when converted into boards are in many instances ideal for pulping purposes.

Mr. MacBean's cost analysis indicated to Mr. Filberg that the project will be a profitable one.

"We figured that if we could handle two cords of logging waste per man per day it would be satisfactory," said Mr. Filberg, "but now it looks as though we will double that performance."

PULPWOOD SALVAGING FOR THE POWELL RIVER COMPANY.

(1) Panoramic view of operations—logged off lands of Comox Logging near Ladysmith, B. C., on Vancouver Island. Pile in foreground totals 4,250 cu. ft., but the one on far side of the road is 7,080 cu. ft. Note lack of heavy debris on ground after yarding.

(2) Conventional high lead yarding was begun in July. This is close-up of a ten-inch main line block after it was affixed to the "tree" used in this method of yarding.

(3) Here the 90-foot "tree" is being raised by "Peanut Picker No. 2." Term "peanut picker" for the light machines used in these operations is Logging Superintendent James Sheasgreen's variation of the commonly used term "cherry picker," applied to heavier shovels. "Peanut Picker No. 2" is a two-ton White truck with Chrysler industrial fluid drive. With its high lead it can cold deck over a radius of 500 feet. "Peanut Picker No. 1" was shown on Page 9, July issue, PACIFIC PULP & PAPER INDUSTRY.

Loading operations began a few weeks ago. A "Sheasgreen preloader" was inaugurated, a modification of the famous "McQuinn preloader," used for heavier logging and "invented" by Jack McQuinn, General Logging Superintendent of all Comox operations.

(4) Here is a false truck bunk, in position for preloading. Tongue of a logging trailer is shown resting on a drum.

(5) Here is the spare trailer which is the rear end of the preloading set-up. A Marion ¾ yard electric shovel or "cherry picker" is preloading by heeling pulpwood against its boom. These logs average only six inches diameter and so must be heel-boomed from butt-ends to save them from possibly breaking under their own weight. To keep butt-ends at the front end of the trucks, preloading is necessary. When the load is ready, this shovel moves out of the way. The load is lifted off the false bunk, which is removed. The truck then backs in, hooks up to the trailer and, finally, pulls away with its load. It is possible that truck loads of up to 100 pieces each can be handled.

Pertaining to Plastics . . .

Shortages Threaten Plastics for Army

● A representative of the Plastics Section of the War Production Board stated recently that there is a steadily increasing use for cellulose acetate plastics (made principally from dissolving wood pulp prepared on the Pacific Coast). But, he noted, there is a corresponding decline in production caused by shortage of certain rayon raw materials.

There is a serious shortage of acetic anhydride, according to Rayon Organon, publication of the Textile Economics Bureau. The acetate rayon industry probably consumes half of the available anhydride.

A shortage of carbon bisulphide, one of the vital raw materials needed in the viscose process of rayon manufacture, is reported in the trade. It appears that the main problem here is a manpower situation in the forest industry from which the charcoal supplies used in making the bisulphide are obtained. It appears that the difficulty arises from the freezing of wages in the forest industry in New York, Ohio, Pennsylvania and Michigan.

The supply of cellulose for the rayon industry appears adequate, according to trade reports. Dissolving wood pulp production is sufficient for industry needs while the supply of refined cotton linters is plentiful. The latter situation contrasts with that of a year ago when the supply was reported as extremely tight, resulting in increased use of wood pulp.

Paper Lamination Discussed at Meeting

● Laminating of paper for production of plastics was discussed at the recent Spring Conference of the Society of the Plastics Industry in Chicago. One of the most interesting talks, from the point of view of the pulp and paper industry, was made by J. D. Lincoln, Virginia-Lincoln Furniture Company, Aircraft Division. His company has developed numerous aircraft parts molded at low pressure.

After telling how a gas tank section made of paper over a year ago held gas successfully for about three months, Mr. Lincoln said more recent processes held promise of more durable products.

"I am sure that paper now can be laminated by a new vacuum process of sucking resin through the paper while it is being made," he said. "If we could take some of the lignin out of the paper and replace it with a better resin (possibly casein), I am sure it will make a real product. After we do that, I believe we can get almost as much strength with paper as we do with fiberglas."

Mr. Lincoln showed two samples, one of low pressure laminating made by himself, the other a brighter, glossier piece made at high pressure.

"I call high pressure laminating 300 lbs., because that is high to us," he said. "Some of you even go to 3,000 lbs., but none of our tools hold up at over 100 lbs. The paper (his) was laminated at 69 p.s.i. I think the tensile strength on the high pressure piece is 23,400 p.s.i., while the tensile point on the low pressure piece is 19,300. When you take the difference in the specific gravities of the two pieces, the specific strength of the lower pressure piece is greater."

He held that where large structures are planned, high pressure tool costs become excessive. However, for large quantities of products, he conceded high pressure methods are perhaps more practical, if they can be used.

"With the big structures, high pressure sock-them-out methods," he said, "are about 40 times as fast as ours."

Mr. Lincoln predicted that "plastics will just start when the war is over."

B. C. Post-War Council Urges Plastics Lab.

● The British Columbia government, through its Post-War Rehabilitation Council, has been exploring the possibilities of developing new industries to utilize the province's natural resources, especially during the period of adjustment after the war. The Council's reommendations emphasize the importance of developing products from wood such as cellulose and plastics. The Council points out that while there are hundreds of plastic materials to choose from, the commercially successful ones are comparatively few. And it continues as follows:

"We have many sources of supply of raw materials that are likely to be suitable for the manufacture of plastics in British Columbia. One of our chief resources—wood—is approximately one-half cellulose and one-half lignin. Cellulose is a present source of valuable plastic material, and it is believed that lignin can be used for the same purpose. Thousands of tons of lignin are wasted annually in British Columbia. In this one item alone, a valuable use for lignin would be worth untold sums to the Province and to Canada as a whole. . . .

"This calls for an extensive policy of research. A research program, together with allied investigations in the development of wood and other products, in a centrally located laboratory, is one of the primary needs of the Province; and the establishment of such a laboratory would be calculated to have the widest and greatest beneficial effects on post-war rehabilitation over a long-term period. In this connection Powell River Company has offered full co-operation of its laboratory staff and facilities."

Blotting Paper Makes New Hand Luggage

The Hycar Chemical Company of Akron, O., has found a spectacular assignment for blotting paper. With this company's butadiene synthetic rubber as a saturater and binder, blotting paper of the highly absorbent type may go into luggage — hand bags, suitcases, fitted cases, even packing cases—and, as a result, it will always be where you can find it.

According to tests made in the company's laboratories, highly absorbent blotting paper immersed in the "hycar" latex and then dried in an oven, becomes a tough, wear-resistant material that is ideally suited to the manufacturing of luggage items. The treated paper is not affected by oil or other solvents and can be prepared in any of the standard colors. It is now scheduled for post war production.

Future of Forest Industries Discussed

● Shipments of forest products from the Pacific Northwest's seaports may decline in volume during the coming years, but in value they are likely to show a pronounced increase as a result of the gradual transition from trade in logs and lumber to the more refined materials such as pulp and paper, plywood, laminated boards, plastics and cellulose goods.

Such was the prospect held out by speakers at the Vancouver conference of the Pacific Coast Association of Port Authorities July 29. Discussion of the situation confronting North Pacific seaports due to the rapid elimination of forests was led by K. J. Burns, Vancouver port manager, and among those who contributed their views were British Columbia's Chief Forester, C. D. Orchard, Nels Weborg of Everett, Wash., and David Burrowes and R. O. Wahlgren of Port Angeles, Wash.

"How are we going to offset the threatened loss of this business since it is obvious that the days of our great virgin coastal timber stands are numbered?" asked Mr. Burns. In his opinion the solution lay in the development of an export trade in the finished products of the timber industries to replace the inevitable slump in offshore sales of logs and lumber.

Mr. Weborg felt optimistic regarding the future inasmuch as many of the more enlightened timber companies as well as the state and provincial governments were showing recognition of the industry's predicament and were planning accordingly. They were, he said, taking the realistic view that a tree is more than so many board feet of lumber; that it was potentially rich in chemical constituents that might be the foundation of scores of new industries.

"In our own country," said the Everett delegate, "we have three pulp and paper plants making valuable use of the once despised hemlock and at least one of these companies is engaged in a reforestation program that will insure permanence of the industry. What we need most of all is a program that will provide protection against fire in the woods and that will make it possible for timber holders to retain their land a sufficient time for re-stocking a new crop without excessive taxation."

Mr. Orchard told how the development of manufacturing based on the forests would increase employment, and thus contribute to the prosperity of the area. To produce 1000 feet of logs required one man-day's work; to convert that volume of wood into lumber or shingles required two man-days; to produce paper from the same volume required four man-days and rayon would require six man-days.

The great advantage of the Pacific Northwest lay in the fact that the region possessed some of the world's most sought-after timber which, if properly utilized, he said would maintain profitable industries for all time.

Gallaways Lose Son

● Many friends in the pulp and paper industry extend their sympathies to Mr. and Mrs. G. H. Gallaway of Camas, Wash. Their son, Michael, age 4, succumbed of a sudden illness on July 9, following an attack of influenza. Gallaway is technical supervisor of the Camas plant of Crown Zellerbach Corporation.

Lt. Commdr. Cavin Wins High Honor

●Lt. Commdr. Harold D. Cavin, (CEC) USNR, has been assigned to command the 100th U. S. Naval Construction Battalion. according to an announcement in "Bee Lines," official publication of the Seabees at Camp Perry, Williamsburg, Va.

Lt. Commdr. Cavin is on leave as resident engineer, Puget Sound Pulp & Timber Company, Bellingham, Wash., and only recently completed his officer's training course, psychic analysis and other tests. How well he has done is shown in his selection to head a battalion with the magic number "100."

According to "Bee Lines," this battalion "marks completion of the 'Bridge of Victory' to the middle panel point" for the Seabees and "although battalions with higher numerical designations are now en route to the field, the 100th represents the reaching of the summit in Seabee training."

The 100th battalion was commissioned after passing in review before Rear Admiral Ben Moreell, chief of the bureau of yards and docks, U. S. Navy, on July 24. Said "Bee Lines":

"The 100th battalion will go to the war theater with the "Can Do" spirit of the units which have preceded it. The battalion's forerunners have, in a relatively short period of months, established a reputation for ingenious applications of mechanical skill under trying conditions . . . .

"From an original authorized strength of about three thousand officers and men, the Seabees have swelled to their present strength, which is approximately half their expected manpower. Although their activities are somewhat shrouded in military secrecy, news of their exploits on Attu, Guadalcanal, and in Africa, Alaska and such places have brought them the name of 'the Can Do boys.' From bases constructed and protected by Seabees, American fighting fleets have been able to keep supply lines open, and bring the scene of battle constantly closer to the enemy."

While awaiting further orders, "Cavvie's" address is: D-7-BOQ 51, Camp Perry, Va.

V. C. HANER, acting Plant Engineer in charge of Maintenance and Construction at PUGET SOUND PULP & TIMBER COMPANY, is replacing Lt. Comndr. HAROLD D. CAVIN, USNR, on leave for the duration of the war while serving in the Sea-Bees. Mr. HANER was associated with Lt. Comndr. CAVIN in engineering activities for a number of years, both before and since their affiliation with PUGET SOUND.

Arthur E. Duke Joins Seabees

● Arthur E. Duke, master mechanic at Soundview Pulp Company, Everett, Wash., since 1936, has been called to duty by the Seabees, U,. S. navy construction battalion, as a chief petty officer. July 16 was his last day at the mill and, after arranging affairs for his wife, son and daughter, he was to report to the Seabees' training base in Virginia.

John H. Moak, Mr. Duke's assistant since June, 1940, will be master mechanic during his absence, Leo S. Burdon, general manager, announced.

Mr. Duke, whose former home was in Eatonville, Wash., was at Soundview in 1929 and 1930 with a construction engineering crew and returned about ten years ago after being active in engineering work elsewhere in the state. He was 38 years old in February.

Mr. Moak, native of Montesano, Wash., and a graduate of Oregon State College in engineering, was at Soundview as a field engineer during the 1936-37 construction period on Unit No. 2. He was a shift superintendent, 1938-40, at the Brunswick Pulp & Paper Company, Brunswick, Ga., producing bleached sulphite for Scott Paper Company and Mead Corporation. He returned to Soundview as assistant master mechanic in 1940. He has a wife and daughter.

V. C. Haner Has Had Wide Experience

● V. C. Haner, acting plant engineer in charge of maintenance and construction at Puget Sound Pulp & Timber Company, Bellingham, Wash., has had wide experience in design and construction work since graduation from the University of Washington in 1926. Mr. Haner, who is replacing Lt. Commdr. H. D. Cavin, on leave in the Sea-Bees of the U. S. Navy, was associated with Mr. Cavin for years, even before they joined Puget Sound.

Soon after college, Mr. Haner spent four years in charge of highway structure design and construction in the King County Engineer's Office, Seattle. He moved to Portland for two years to design structural and mechanical equipment for Bonneville Dam and later designed U. S. highway bridges in California. He joined the firm of Cavin, Marshall & Barr, which designed and constructed the Puget Sound Pulp & Timber Company in 1938. After serving with the Washington State Highway Department as designing engineer and in Balboa, Canal Zone, in charge of the mechanical section installing equipment and fortifications for the canal locks, Mr. Haner joined Puget Sound about three years ago.

Palmer-Evenden Wedding

● Miss Joan Palmer, popular member of the office staff at the Camas, Wash., plant, Crown Zellerbach Corporation, announced plans for her marriage to Fred G. Evenden, Jr., of the U. S. Army, on August 18. The couple will reside in Tacoma.

Oakley Dexter Returns To Crown Zellerbach

OAKLEY DEXTER, who has returned to San Francisco as Director of Purchases for Crown Zellerbach Corporation after two years of service in Washington, D. C. His last post was Coordinator of Conservation for the Navy.

● Oakley W. Dexter left San Francisco for Washington, D. C., in November, 1941, to be a dollar-a-year man in the old office of production management—predecessor of the WPB—but he didn't think he would be needed for more than three or four months. Salary, about 25 cents.

Now, at long last, Mr. Dexter has returned to his post as director of purchases for Crown Zellerbach Corporation, after holding several important positions in Washington, his last assignment being coordinator of conservation for the Navy Department. He also was navy member of the inter-agency conservation coordinating committee and navy member of the joint U. S.-Canadian conservation committee. He also arranged for exchange of substitution information with the British Admiralty.

The conservation program is running so smoothly that Mr. Dexter at last found an opportunity to return to Crown Zellerbach, in whose employe he has served for 28 years.

King's Query Embarrassing

It took Lieut. David A. Killam, Royal Canadian Naval Volunteer Reserve, son of Lawrence Killam, president of B. C. Pulp & Paper Co., three years to pick up the Distinguished Service Cross he won in the evacuation of British troops from Dunkirk in 1940.

The young British Columbia naval officer received his decoration from the King at Buckingham Palace at a recent investiture in a ceremony which was not without its embarrasing moment.

"When I stepped up," he said, "the King asked me about the action and particularly about my ship. I really couldn't tell him because I didn't have a ship. We were using rowboats and anything else that would get the boys off."

Newsprint Price Upped $4; Won't Increase B. C. Production

● British Columbia newsprint manufacturers agree that the additional $4 per ton increase in price authorized by the Wartime Prices and Trade Board at Ottawa and the Office of Price Administration in Washington will be a substantial help in meeting production costs.

The $4 increase, effective September 1, raises the ceiling on standard newsprint paper to $58, a similar raise having been granted earlier in the year—the first in several years.

It was simultaneously announced that side-run newsprint will also advance to $58 and super-standard to $61.50 a ton.

Executives of Powell River Company and Pacific Mills, Ltd., British Columbia newsprint manufacturers, stated that the increase represented a compromise inasmuch as the industry had been negotiating for an increase of at least $6. They said the new price would provide additional incentive for production of pulpwood, although they doubted whether this influence would be felt so much on the west coast as in the east.

"Our plans for pulpwood production were formulated long in advance and we are already exerting all possible pressure," said one paper company official. "Even higher prices won't compensate for lack of men."

The increase may mean the difference between profit and loss for some marginal producers in eastern Canada.

The way was left open for a further increase in price by the statement of Donald Gordon, chairman of Canada's price board, in which he said:

"The whole field of pulp and paper production by Canada now is under active consideration by the board. While the board regrets the necessity of increasing publishers' costs at the present time, it feels that its first concern must be to provide production sufficient to assure that essential supplies will be available."

Price Administrator Prentiss Brown in Washington stated: "It cannot be hoped to adjust the price to a point where each individual mill becomes profitable, but this office is charged with the duty of adjusting prices, upwards or downwards, as will be generally fair and equitable.

"It is felt, therefore, that this order raises the price to the minimum extent required by the Emergency Price Control Act. A number of newsprint mills in both the United States and Canada are operating at a loss."

Meanwhile the many-sided problem of newsprint supply is being worked out by the War Production Board with the July 1 15 percent curtailment setting the objective but by no means attaining it, according to word from Washington.

Editor & Publisher, New York, states that for the average newspaper the latest reduction means a cut of 15 percent from the 1941 base period. Stated in reverse, that means that the average publisher may count on 85 percent of the tonnage required to serve his certified 1941 circulation—if the paper is available, and at the right price.

Squeeze Is On

In Quebec the return of electric power added to basic costs of some mills as they could not always use the power in view of the limits set on production.

In support of a somewhat higher price for print paper, it was pointed out that on the basis of 1939 returns, on which Canadian tax authorities adjudged the industry as a whole, mills were in the red $9,000,000 on an annual basis after making provision for depreciation, interest charges and preferred dividends, but before any return on equity. Since then the deficit has increased to an annual $10,000,000 rate.

On the basis of new wood coming into use, the average Canadian newsprint manufacturer was reported to be losing $3 a ton or more after providing for full depreciation and debt charges. When demand permitted the industry to operate at a high rate of capacity, with resultant maximum efficiency, it was not so hard pressed. The peak was reached in 1941 with a production of 3,425,000 tons and sales of 3,454,663 tons. Last year sales declined 246,000 tons and production about the same amount. The squeeze is definitely on the industry this year; for the first four months of 1942 production slipped 19.9 percent and sales 15.7 percent. It is probable that the drop will continue during the balance of the year.

It is claimed by manufacturers that the lower scale of operations this year alone has wiped out any benefits which might have accrued from the March advance of $4 a ton. Newsprint production on the Pacific coast has declined as well as in the east. Powell River Company, for instance—the biggest newsprint producer on the coast—now has only three of its battery of seven machines on newsprint, and the mill is operating only five and two-thirds days a week.

HAROLD W. HILLIER, who came west from Chester, Pa., to take over the post of Technical Director at the Empire, Ore., mill of the Coos Bay Pulp Corporation. The announcement of Mr. HILLIER'S transfer from the parent concern, the Scott Paper Company, was published in last month's issue of this magazine.

Canadian Commons Debates Pulpwood Issues

● Importance of allocating a maximum number of men to the pulpwood industry in Canada so as to maintain production and avoid the possibility of undue criticism from United States publishers was discussed at considerable length in the House of Commons at Ottawa on July 22.

The issue was raised by John G. Diefenbaker, Conservative member for Lake Center, Saskatchewan, who stressed the value of pulpwood production and the newsprint industry and their influence in the maintenance of good relations with the United States in wartime.

"There has been during recent weeks a pronounced antagonism on the part of the American publishers towards the restriction that has taken place in this country in the production of necessary pulpwood," said Mr. Diefenbaker. "A feeling is springing up in the United States that we in Canada in raising the price of the product and in not assuring the full production that is needed by the United States are actually trying to take some advantage of the United States, whose main importations come from Canada."

Mr. Diefenbaker quoted the announcement of the $4 increase in newsprint, and he pointed out the shortage of manpower was primarily responsible for curtailment of pulp production. Vital war production, he said, had been endangered because paper and pulpwood occupied today a position unequalled by any other industry in Canada's war effort. Essential foreign exchange was being sacrificed, he said, while United States publishers at the same time were being antagonized.

Entirely apart from the regular demand for pulpwood, he said, the demand is increasing in war production, with more to be shipped overseas as the shipping shortage is relieved. Already, he said, the United Nations are piling up reserves of paper to send to countries at present occupied by the enemy so as to make the free publication of world news possible when they have been won back.

"We must not lose this valuable trade by our failure to make the necessary manpower available," went on Mr. Diefenbaker, "even though it is part-time work and farm workers are freed for the purpose. We must look ahead to the post-war period so that this industry shall not be permitted to fall into the position where the United States, our main customer, taking 71 percent of our production, may turn to other methods in order to supply those needs now filled by pulpwood."

Hon. T. A. Crerar, minister of resources, said he felt that cutting wood for fuel was more important at this time than cutting pulpwood to maintain the size of newspapers.

Harlan Scott Settles Down In San Francisco

Harlan Scott, general manager of The Log, Miller Freeman maritime publication, with headquarters at 121 Second St., San Francisco, 5, Calif., has sold his home near Seattle. He was formerly editor of PACIFIC PULP & PAPER INDUSTRY, sister publication of The Log. His wife, who is taking post graduate work at the University of Washington and living with her parents in Seattle, will join Mr. Scott in San Francisco in September.

Trade Talk

of Those Who Sell Paper in the Western States

New Uses for Folding Boxes Highlights Manufacturers' Meeting

"Folding Boxes Go to War" was the keynote of the 29th annual convention of the Pacific Coast Paper Box Manufacturers' Association, held in San Francisco June 29 and 30.

Payson Thompson of the Portland Paper Box Company, Portland, Ore., the president, presided over the meeting.

The increasing extent to which paperboard containers are replacing other materials was attested by an elaborate display surrounding the speaker's rostrum, against a huge board depicting "Folding Boxes at War."

Highlight of the conference was an address by Joseph C. Meyerstein of San Francisco, attorney for the association, who discussed problems of the manufacturers, now many time multiplied by war conditions.

"So many are our problems, and some so complicated, that even the wisest cannot be sure of the answer," he declared.

Other speakers included A. E. Murphy, secretary of the Folding Box Association of America, Chicago; Walter Miller, president of the National Paper Box Manufacturing Association, and member of the advisory committee of the WPB Container Division, Philadelphia, and A. Z. Pittman, of the Western Regional Laboratories, Department of Agriculture, Albany, Calif., who discussed dehydrated food packaging.

John V. Manners, Paper Box Corporation, Oakland, Calif., was elected president for the ensuing year, with Frank M. O'Leary, Eureka Paper Box Co., Los Angeles, as vice president, and R. S. Scully, Puget Sound Paper Box Co., Seattle, treasurer. Harold H. Worth again was named to the post of general secretary. W. Schulte of Schmidt Lithograph Company was winner of the golf tournament.

Participating in the conference were:

Hollywood: Hollywood Paper Box Division of The Flintkote Co.

Los Angeles: Acme Paper Box Co., Angelus Paper Box Co., Independent Paper Box Co., Los Angeles Paper Box Co., Royal Paper Box Co. and Standard Paper Box Corp.

Oakland: Dexter Paper Box Co., Paper Box Corp. and Western Paper Box Co.

San Francisco: Fleischacker Paper Box Co., Schmidt Lithograph Co. and United Paper Box Co.

Portland: Columbia Paper Products Co. and Portland Paper Box Co.

Longview: Pacific Paperboard Co.

Seattle: Pacific Label & Carton Co., Ridgway Lithograph Co., and Union Paper Box Co.

Tacoma: Standard Carton Co.

DISPLAY OF FOLDING PAPER BOXES for essential war goods at recent San Francisco conference of Pacific Coast Paper Box Mfrs. Assn.

Acquires Coast Paper Co.

● Gilbert Garnett, formerly general manager of Midwest Paper Sales, representing eastern paper mills in Winnipeg, Man., has acquired the Coast Paper Company's properties in Vancouver, B. C., and organized Coast Paper Ltd., which is carrying on business formerly operated by Arthur MacLachlan and A. B. Cheeseman, fine paper distributors. The original corporation is being wound up.

Mr. Garnett, well known in Canadian prairie paper circles, is the sole owner of the new company with offices at 835 Cambie Street, and K. F. Davey is manager.

Paperboard Price Committee Appointed

● The OPA Washington, D. C., headquarters recently announced the creation of a new Paperboard Industry Advisory Committee, which will consult with the Paper and Paperboard Products Branch on future pricing and other problems affecting the industry.

Fourteen executives of paperboard concerns manufacturing Fourdrinier, kraft and specialty products, were appointed to the committee. None of the appointees are from a Pacific Coast paperboard manufacturing company, all being officials of eastern and middle western concerns. G. G. Otto, vice president, Alton Box Board Company, Alton, Ill., was elected permanent chairman at the first meeting in Washington June 25.

A recent OPA order (Max. Price Reg. 114—wood pulp) made it possible for some kraft wood pulp producers to obtain higher than prevailing ceiling prices. Those producing sulphate wood pulp for WPB allocation with drying equipment not designed for production of this pulp on the open market may apply to OPA for price increases.

WPB's Limitation Order L-239 was amended June 23 to prohibit further production of soft drink cartons in order to save paperboard for army, lend-lease and other essential uses.

L. A. Colton Teaches Stanford P. G. Course

● L. A. Colton, vice president in charge of the purchasing department, Zellerbach Paper Co., San Francisco, was chosen from outstanding executives in the industry on the Pacific Coast to conduct the "paper class" for the Graduate School of Business at Stanford University, Palo Alto, Calif.

The class is composed of a selected group of business men seeking post-graduate guidance in management practices in war industries, including the paper industry. The entire course extends through 10 weeks on a full-time basis of 40 hours a week.

Mr. Colton was assisted in conducting the class on paper, its manufacture, and use, by Bert Newman, printing paper sales manager of the San Francisco division of the Zellerbach Paper Co.

Paper Cups Save Lives

Out of the Aleutians comes an account describing how paper cups saved the lives of ten men—the crew of one of the Navy's big Catalina patrol bombers.

Lost in a dense fog the plane settled in the rough seas. The seams of the patrol bombers were forced by the landing and the crew had to bail or sink. For two and half days they kept afloat because of paper drinking cups. Two-man shifts bailed continuously for two and a half days, and though the cups looked pretty sloppy when rescue came they did not dissolve.—The Informant, published by Zellerbach Paper Co.

Powell River Company's Grinder Room is Improved

● During the past year the hydraulic grinder room at the Powell River Company's mill has virtually gone through a process of face lifting. The flume carrying wood to the grinders for over thirty years has, with all its heartaches and backaches, disappeared.

For some time the Powell River operating and mechanical departments have considered and discussed some mechanical means to pile the wood blocks and deliver them to the grinders with a minimum amount of labor. Due to the necessity for conserving manpower during wartime it was felt that plans should be developed without delay, and consulting engineers were called in and instructed to make the necessary installations immediately.

The job is completed and it has proved very successful not only in the saving of labor but also in reducing the number of accidents such as back-strain and the many minor injuries caused by overfatigue. This method also leaves the blocks in a relative dry condition, which results in easier and safer handling.

The wood is now delivered to both sides of the grinders so that the operator can fill his pockets with the least possible effort. This is accomplished by means of industrial lift trucks—the men have christened them "jeeps"—which can carry skips containing one half a cord of wood (about 2,800 pounds) at a fair rate of speed and are able to turn in their own length.

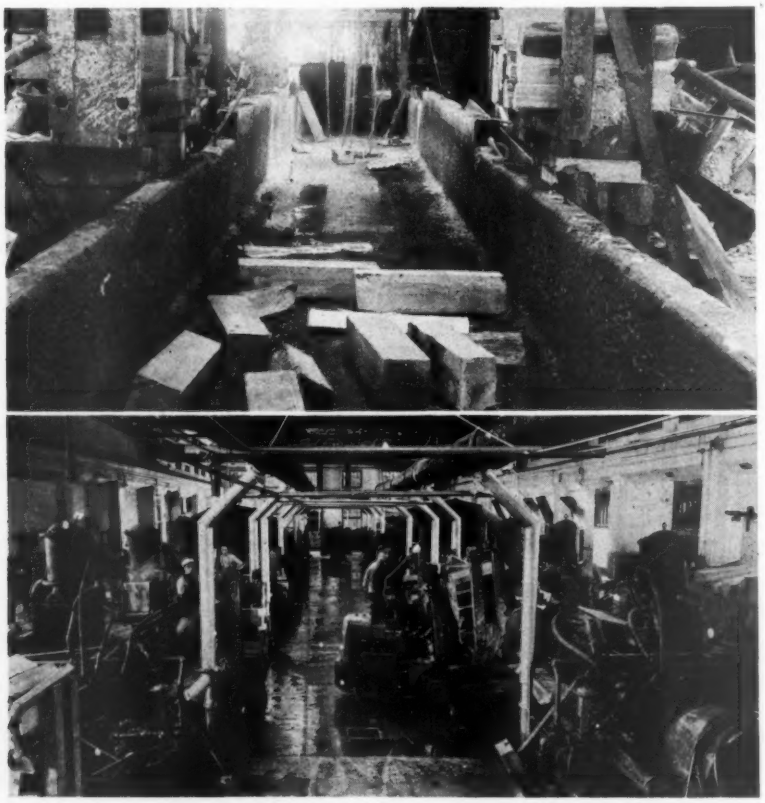
Ingenious Loader

● The skips are loaded by an ingenious mechanical loader which has a capacity of four skips per minute under ideal loading conditions. One skip per minute will supply the grinders with the required amount of wood, leaving a good margin of safety in operation.

The wood is brought to the loader by flume, but before it reaches the loader it passes over a de-watering conveyor and then over a series of spiked rolls which straighten out the blocks and line them up ready for loading.

Storage space for over 300 skips is provided to take care of a six-hour breakdown.

The improvement in working conditions is said to be so noticeable that some of the Powell River Company old timers returning to the groundwood department are hardly able to recognize it as the place where they used to work. The elimination of steam was accomplished some time ago by means of exhaust fans, taking the vapor from both the stock tank and the grinder pits.



POWELL RIVER COMPANY HAS MADE IMPORTANT SAVINGS IN WAR MANPOWER with the improvements shown here in the hydraulic grinder room. Wood now is delivered to both sides of the grinders by industrial "jeeps." Accidents have been reduced.

The top picture is of the grinder room before the improvements were made. It shows the block flume by which pulp blocks were delivered to the back of grinders.

The lower picture shows the same room after removal of the flume. Industrial trucks deliver pulp blocks to the inside run of the grinders.

Many Port Townsend Mill Men in Services

● About 30 per cent of the former manpower of the Port Townsend, Wash., division of Crown Zellerbach Corporation has gone into the armed services. About 150 men are in uniform out of a normal payroll of 500.

It is believed this is the highest percentage of loss of manpower to the armed services of any of the United States pulp and paper mills in the west. At any rate, the percentage is among the highest in the industry in this country.

The loss has been an even more serious blow to the mill because it comes from a town of a normal population of only about 4,800 and a one-industry town prior to the war. With the military and new industries, the population today is estimated at 8,000, but this, obviously, has not increased the labor drawing power for the mill.

As of recent date there were about 50 women employed in the Port Townsend mill. Of this number, 25 were pre-war employes in the bag factory. The remainder have taken over men's jobs in the caustic room, digester room, as screen tenders, on paper machines and in former men's jobs in the bag factory.

Fraser Taunts His Everett Friends

● J. D. Fraser, well known in the pulp and paper industry, formerly from the Puget Sound area, and now superintendent of the Coos Bay Pulp and Paper Company at Empire, Oregon, wants his friends on the Sound to know that they have no idea of good sport until they have sampled the striped bass fishing of Coos Bay. He refuses to apologize for the trout fishing in the near vicinity either and tells of an expedition, before work one morning, in which he and his partner dug four sacks of clams in an hour and a half.

Martin Strange Opens Fraser River Resort

Martin Strange, sulphite superintendent for many years at Pacific Mills, Ltd., Ocean Falls, B. C., until he recently left that post, has purchased the Boston Bar Hotel at Boston Bar, B. C., in the heart of the Fraser River canyon country. He and his wife are operating the resort.

Mr. Strange was connected with the Ocean Falls mill for about sixteen years.

Laughing Eagle Is Symbol Of C-Z Men's Order of RVA

● An editor of fertile imagination has added a new touch to an already confusing array of alphabetical combinations contributing to the current war effort.

It's simply, "RVA," and it stands for "Rejected Volunteers of America."

W. H. West, editor of "Activities," a magazine published by the Crown-Zellerbach Club in San Francisco, is father of this unique organization. Noting a number of fellow workers sadly crestfallen because of having been rejected as volunteer officers in the Army, due to age, Editor West designed for them and printed an emblem, proffering as an appropriate insignia a laughing eagle atop a scroll on which appears a wheelchair under a cross of termite-infested crutches.

Wrote Editor West, who also directs a considerable portion of C-Z's extensive advertising: "It is the destiny of all humanity that men grow old. We, in years gone by, the most delicate flowers of mankind, have reached that period of life whereof the exigencies of progress have rendered us useless. We are old; we are decrepit and

we are infirm—and yet a greater blow than senility has been struck—we are over 38.

"Our militant ambitions have been thwarted. We, and the women and children, because of our helplessness, shall stand as the final bastions.

"Our emblem—the termite-infested crutch—shall ever stand ready as a formidable weapon to guard the shores of our sheltered land."

Dr. Ruth M. Watts Joins Weyerhaeuser

● Ray S. Hatch, research director, Pulp Division, Weyerhaeuser Timber Company, Longview, Wash., announced the employment of Dr. Ruth M. Watts as research chemist at the Longview Laboratory, as of July 1.

Miss Watts came from the University of Chicago where she has been working under the Douglas Smith Foundation for Medical Research. Her work there was in the chemistry of natural products in the biological field. Originally from Bellingham, Wash., she secured her Bachelor of Science degree from the University of Washington, her M.S. at Yale, and her Doctorate at the University of Chicago.

Shaneman Discusses Industrial Opportunities

● Fred C. Shaneman, vice president of the Pennsylvania Salt Manufacturing Company of Washington, told a recent meeting of the Pacific Northwest Advisory Board in Tacoma, Wash., that the chemical industry is not unmindful of real opportunities for sound expansion in the Pacific Northwest.

He mentioned 63 billion tons of coal in Washington State as material for tar, gas and resin products as well as fuel.

"Not enough has been done with the woods waste of our forests and sawmills "he said," but this raw material is being given a lot of attention, chemically, and some interesting and valuable things are bound to result in the way of plastics, improved building materials, etc."

Rayon Bomb Chutes Used in Africa

● Dispatches from the Tunisian front reported that many German troops were demoralized and driven to surrender by the Allies' use of fragmentation bombs, according to an article in Rayon Organon. These bombs are dropped by the use of special rayon parachutes. Fragmentation bombs, sometimes called anti-personnel bombs, are dropped by planes flying at very low levels and, upon detonation, scatter their shrapnel-like contents in all directions with terrific force and over a wide area.

Rayonier at Port Angeles Employs 80 Women

● About 80 men were on leave in the armed services from the Port Angeles, Wash., division of Rayonier Incorporated, according to recent records. Both with and without leave, that is, including men who were not employed long enough to obtain leaves of absence, about 160 men left the mill to go into uniform.

About 70 women have been employed to replace men in the mill, the first replacements being made about the first of the year. An additional ten women have normally been employed in the office but the ladies had never been employed in the mill before. The jobs they have taken in the mill are in screen room, pulp finishing department, chipping plant, bleach room and sawmill.

Total personnel of this Rayonier plant was reduced somewhat to meet the 48-hour week basis, releasing men for other essential war activities, and is now about 500.

New Pacific Mills Operations Chief

● Paul E. Cooper, former deputy director and general manager of the Thames Board Mills, Ltd., Purfleet, England, has been appointed vice-president and general manager of Pacific Mills, Ltd., Canadian subsidiary of Crown Zellerbach Corporation.

Mr. Cooper, with headquarters in Vancouver, B. C., will direct operations of the mills in both Ocean Falls and Vancouver. J. A. Young, who has been in charge, will continue as vice-president and treasurer. H. C. Pim also will continue as vice-president, in charge of sales.

Mr. Cooper is a Canadian. He was with International Paper Company for many years.

Ocean Falls Installation

● Pacific Mills, Ltd., has installed a new Van de Carr slice on its No. 1 machine in the hope of producing more and better newsprint on this unit, according to announcement by J. A. Young, vice president.

The installation at the Ocean Falls mill was made by Dominion Engineering Company, Montreal, at a cost of more than $20,000.

Easterners Interested In New Everett Barker

● A number of prominent industry officials on the west coast have viewed the operations of the new whole log hydraulic barking and chipping unit at the Everett, Wash., mill of the Pulp Division, Weyerhaeuser Timber Company. And now eastern officials are making special visits to the plant for the same purpose.

William H. Campbell, vice president of Brown Company, Berlin, N. H., who have four mills with total capacity of 850 tons per 24 hours, toured the Everett plant. With him were three other Brown Company officials, M. O. Schur, research director, G. A. Day, chemical engineer, and C. A. Johnson, chief engineer. The Brown Company is one of the principal producers of high grade dissolving pulps among other products. One of its pulp-producing mills was recently shut down because of lack of wood. As a result, some of its former production of high grade pulps has been taken over by Pacific Coast mills.

The new whole log barker and chipper at Everett were described in ten pages of articles and pictures in the Annual May Review Number of PACIFIC PULP & PAPER INDUSTRY.

The fame of the Everett installations has even extended to "Down Under."

This telegram was received from Wellington, New Zealand:

"Please forward immediately May issue PACIFIC PULP & PAPER INDUSTRY featuring Weyerhaeuser log barking machine.

STATE FOREST SERVICE, (Wellington. N. Z.)."

Congratulations, One and All . . .

Dow Chemical's 6th "E"

● "The past record is written. We will keep faith with that record in the future," said Dr. Willard H. Dow, president of the Dow Chemical Company, Midland, Mich., in accepting the Army-Navy "E" award for excellence in production by the Great Western Division's Pittsburgh, Calif. plant. "I accept the "E" with great pleasure and take pride in the fact that we, as a group, can produce to deserve it. I fully expect we will add stars to this flag."

This is the sixth "E" award to be received by a division or operation of The Dow Chemical Company.

Brig.-Gen. Ray L. Avery, commanding general, Edgewood Arsenal, presented the "E" burgee at an impressive ceremony at the Pittsburgh plant, July 28. Capt. Nelson H. Goss, U. S. Navy (Ret.,) commanding officer Naval Ammunition Depot, Mare Island Navy Yard, presented the "E" pins to the employes. General Avery complimented the men and women of the plant for a job well done, but stressed the added effort needed to meet the production schedule. Determination to keep production at the maximum was expressed by R. L. Curtis, general manager, C. W. Schedler, production manager, and Billy Van Zandt, president of the Chemical Workers Union Local 20280. Said Mr. Van Zandt: "We are proud of the "E" award and to know that our efforts are helping to win the war."

Dr. Dow said the company has built plants costing over $200,000,000 all of which was federal government money. In addition, The Dow Chemical Company has spent $50,000,000 of its own money in expanding and improving its facilities. He commented that the Great Western Division is the largest producer of xanthates, used in flotation recovery of metals. Dr. Dow also touched upon the company's magnesium production program; the making of insecticides; of bromine and of aspirin, of which Dow is the largest producer; and of iodine. Dow is the only major producer of iodine in the country. Of the company's large plastics production, he mentioned specifically the use of Saran in making fly screens for the Army's use in the tropics where metals will not last, saying that all of the Saran screen is going to the Army.

He is proud of the fact, Dr. Dow said, that the company's profits declined last year by 11 percent in spite of an increase of sales from 78 to 105 million dollars, for this is one measure of the organization's contribution to the war.

ESCO Again Honored

● A second renewal of its Army-Navy "E" for production excellence has been won by Electric Steel Foundry Company of 2141 N. W. 25th, Portland, Ore., it is announced.

In commenting upon its honors, ESCO has given credit to assistance rendered by the machine shops of the pulp and paper industry of the Pacific Coast. "We share with the pulp mills our honors," it said.

Ernest Swigert is president, Newman Ward, general manager, and Harry Richmond is chief engineer of Electric Steel Foundry Company.

IMPCO Flies Burgee

● An Army-Navy "E" pennant has been won by the Improved Paper Machinery Corporation, Nashua, N. H., as a tribute to its 400 employes and management for the quality of work they have done in providing tools for our armed forces on the fighting fronts of the world.

Participating in the ceremony on July 3 were Governor Blood, U. S. Senator Tobey, and his army and navy officers. Walter L. Barker, president of the company, made the welcoming address and received the award, after which he turned it over to representatives of the employes. After the ceremony Mr. Barker was the host at a reception and dinner to Impco employes, their wives and children.

AWARD OF THE ARMY-NAVY "E," Great Western Division, The Dow Chemical Company, Pittsburg, Calif., July 28.

Left to right: R. L. Curtis, General Manger; Billy Van Zandt, President of Chemical Workers Union Local 20280, who accepted the award for the employees; Dr. W. Hirschkind, Director of Research; C. W. Schedler, Production Manager; Capt. Nelson H. Goss, U.S.N.(ret.), Commanding Officer, Naval Ammunition Depot, Mare Island, who awarded the "E" pins; Dr. Willard H. Dow, President, The Dow Chemical Company, Midland, Mich.; Brig. Gen. Ray L. Avery, Commanding General, Edgewood Arsenal, Chemical Warfare Service, U. S. Army, who presented the "E" Burgee, and Col. Albert H. Whitcomb, Camp Stoneman, Calif.

Star for Texas Gulf

● The Texas Gulf Sulphur Company has been awarded a White Star to add to the Army-Navy "E" Production Award Flag it received on November 2, 1942. Announcement of this second award was made by Under Secretary of War Robert P. Patterson in a letter addressed to the men and women of the Newgulf plant and the Galveston Loading plant of the Company, and it indicates that during the period since the receipt of the "E" award, high standards have been maintained in the quality and quantity of production of sulphur.

Tide Water Associated's "T"

The Seattle district office of Tide Water Associated Oil Company proudly flies a Treasury "T" Flag, awarded in recognition of the fact that more than 90% of the Seattle district employes are buying War Bonds under the payroll deduction plan for a total of more than 10% of the payroll.

In making the presentation, U. S. Treasury Department officials commended Associated's employes for achieving this patriotic goal. U. S. Coast Guardsmen and local civic officials assisted in the flag-raising ceremony.

Calco Chemical's 2nd

● The record output of chemicals and dyes for the armed forces produced by the Calco Chemical Division of the American Cyanamid Company has won the company its second Army-Navy Production Award, according to a letter received by company officials from Under Secretary of War Robert P. Patterson.

Calco manufactures large quantities of organic intermediates going into the production of munitions, rubber chemicals and special fuels, and is also producing increased quantities of dyestuffs for military uniforms, camouflage, sea markers and signal devices.

Honors Taylor Instrument

Thanks to the consistent efforts of its workers and suppliers, the Taylor Instrument Companies, Rochester, N. Y., have been awarded the Army and Navy "E" for "accomplishing more than once seemed reasonable or possible" . . . in the words of Undersecretary of War Patterson.

Milton J. Cross of N. B. C., was master of ceremonies for the event which featured the pennant-award speech by Col. John A. Rogers, Executive Officer, the Surgeon General's Office, U. S. Army, and the pin presentation by Capt. Claude W. Carr (MC) USN, Medical Officer in Command Naval Hospital, Sampson, N. Y.

Mr. L. B. Swift, president of Taylor's, accepted the "E" Flag and pledged the organization to ever greater effort in producing instruments for winning the war.

Pacific Gear Wins Award

● The highest award the Army and Navy can give for civilian effort, the "E" flag, was presented to Pacific Gear on July 31, making the second "E" to be awarded the parent company and its affiliate, Western Gear Works of Seattle.

The latter received the award in February of this year.

"Teamwork is our secret weapon," said Captain Alva B. Court, U.S.N. (Ret.,) Inspector of Naval Material, San Francisco, in his presentation talk. "We must maintain our teamwork at a higher state of perfection than our enemies in order to win."

In accepting the "E" burgee, Philip L. Bannan, president of the company and of the Western Gear Works, said the organization was, "filled with pride at our country's recognition of our work. We pledge we will not slacken our pace until our boys are home again." He thanked the employees for producing materials of high quality needed by our armed forces.

Peter Lo Codo, representing Pacific Gear & Tool employes, said that "all are happy to have their work recognized by the Army and Navy. We're in this fight to win on the home front of production."

Telegrams of congratulation came from employes of the plants at Seattle, Lynnwood, Calif., and Los Angeles. Governor Warren; Mayor Rossi of San Francisco; U. S. Senators Johnson and Downey; and James Forrestal, under-secretary of the Navy.

From First Lieut. Bernard Bannan in North Africa came a letter to his father and mother, Mr. and Mrs. Philip L. Bannan, saying, "You can be sure we'll carry on over here where you leave off there." Lieutenant Bannan of Army Ordnance is in charge of a machine shop in North Africa.

PRESENTATION of Army-Navy "E," Pacific Gear & Tool Works. Left to right: CAPT. ALVA B. COURT, U. S. N. (Ret.), Inspector of Naval Material, who presented the "E"; PETER LO CODO, who accepted the award for the employees, and PHILIP L. BANNAN, President of Pacific Gear & Tool Works and of Western Gear Works.

Rayonier Helps to Build Big Wooden Cargo Barges

● Rayonier's big saws in the Port Angeles, Wash., mill are cutting many a huge Douglas fir timber to help construct the nation's biggest wooden cargo barges, built and building at the nearby plant of Olympic Shipbuilders.

Two Rayonier men did yeoman service at the first launching of one of the big craft on July 17. They were Grant C. Morse, of the finishing department, and W. P. Ditz, paymaster, who acted as skipper and crew, respectively, of the "CGA 3101" which patrolled offshore while the 274-foot "Red Alder" was successfully launched and towed back to the shipyard pier.

Besides helping as part of their Coast Guard Auxiliary duties to guard against mishaps during the launchings, Morse and Ditz carried along one of the official photographers for the occasion. They also carried out a tradition of the sea by throwing a line to two shipyard employees struggling vainly to row back to the yard with a 40-foot drag log in tow.

Roosevelts Participate

Mrs. Franklin D. Roosevelt and her daughter, Mrs. John Boettiger, who broke the champagne bottle on the ship, participated in the launching ceremonies.

M. B. Houston, vice president, W. E. Breitenbach, resident manager, and other Rayonier officials attended the launching and a luncheon at the Elks Club preceding the event. Also at the luncheon were C. V. Basom and Nelson Hartnagel, resident manager and assistant resident manager at the Fibreboard mill in Port Angeles.

Olympic Shipbuilders is a company formed and operated by Kemper and William Freeman, Miller Freeman, Jr., and L. K. Smith, officers of Miller Freeman Publications, which publishes PACIFIC PULP & PAPER INDUSTRY.

Victoria Board Mill Employs Women

● A few months ago the Sidney Roofing & Paper Company of Victoria, B. C., began employing women in mill work for the first time in its history. As of recent date, more than 20 women had thus been employed and Logan Mayhew, managing director, said this number would be gradually increased.

Twelve of these women were employed in the beater room and some are capable of doing some of the most important jobs. Other women work on the board machine, on the roofing machine, in the finishing room, on boxes and in the groundwood plant on wet machines.

The personnel of the Sydney mill totals about 135. Twenty-seven of its former men employes were in armed services, ten of them being overseas, according to recent reports.

Colonel A. H. Hooker Returns From England

● After only a brief two and one-half weeks furlough on Puget Sound, Col. Albert H. Hooker, Jr., of Tacoma, Wash., reported August 8 to the war department in Washington, D. C., for further duty in the chemical warfare branch of the service.

Colonel Hooker, on leave for the duration from his position as western sales manager for the Hooker Electrochemical Company of Niagara Falls, N. Y., had spent fifteen months in England. He was chemical officer, 8th Air Force Service Command, European Theater of Operations, U. S. Army, which means he was in charge of chemical warfare, supplies and defense against chemical warfare for the entire American air force operating in northern Europe.

When he left for Washington Colonel Hooker did not know what his new duties would be or where they would take him.

He predicted mustard and other gases would be used in Europe before the fighting is over. "Hitler will start it and it will be just another one of his mistakes," he said, explaining that the United Nations have made elaborate preparations for this type of warfare.

British cooperation was lauded by Colonel Hooker. He said the extent of cooperation of Both British civilians and those in uniform was "almost unbelieveable."

Coos Bay Peps Up Its Safety Program

● A re-organization of safety activity has been accomplished at the Empire, Ore., mill of the Coos Bay Pulp Corporation and a livewire safety committee is functioning. Regular meetings are held with mill officials and supervisors attending. H. M. Stevens of the Oregon State Industrial Accident Commission has been aiding the group whenever possible.

Announcements of the meetings are made on the time cards and the attendence has been good. Reports are given at the meetings of what has been done to correct hazards as well as to call to the attention of those present new conditions needing correction. Many good ideas are reported developing from this activity.

During the month of May there were no lost time accidents at the Coos Bay mill.

Attitude of Employes Stressed As Key to Successful Safety Program

● The problem of the attitudes of employes toward safety programs was one of the most lively topics of discussion at the annual meeting of the Western Safety Conference, Lumber Section, held June 4-5 at Longview, Wash., in the Monticello Hotel.

A number of representatives of the pulp and paper industry were in attendance.

Ted Kepner, Crown Zellerbach, Corporation, Logging Division, Cathlamet, Wash., stimulated the discussions by his paper, "Personnel and the Safety Program." He stressed the critical role of the foreman in his relations with employes under him.

He said that in many instances, the foreman is the only contact that a worker has with the company for which he works and that foreman should have full knowledge with which to supervise the work of his men and guard their safety. Safety must be created right on the job, Kepner emphasized, and the safety supervisor is merely a service man for safety to the foreman and employee.

Kepner concluded, saying, "You may plan the finest safety program but if the attitude is off key, it is of no value. There is no one big thing that brings about the proper attitude. It is the small things; the every day relationships between human beings. Care must be exercised not to create an impression of paternalism."

Points brought out in discussion:

Men have become suspicious of management and safety appears to them to be something that management wants. Naturally, their suspicion falls on safety. What men do not understand, they resist.

It is one of the foreman's jobs to get over the crew the fact that emphasis on safety, job training or other similar fields is for the good of everyone.

Organized Labor View

For years, efforts have been made to sell management on the value of accident prevention and some results are beginning to show. On the other hand, what effort has been made to sell organized labor? Can we blame anyone for labor's resistance, in some instances, to safety program?

Perhaps safety engineers spend too much time on guarding physical hazards and not enough on the problems of attitude.

An example was cited in which foremen were brought together periodically in a dinner where the subject of discussion was entirely safety. This method accomplished a gradual increase in safety mindedness until the entire program has caught on.

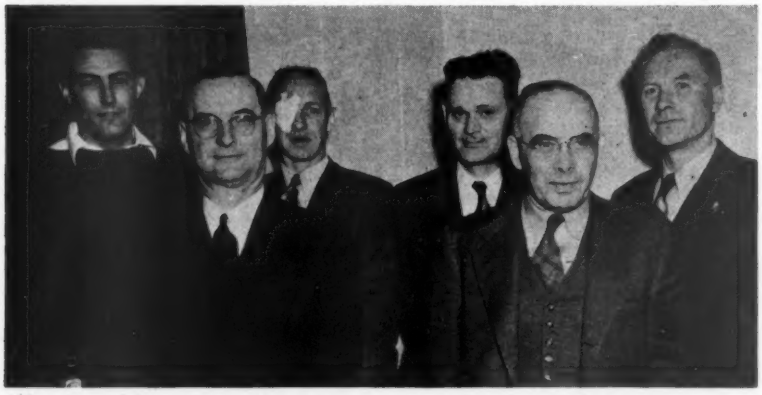
Labor - management committees were discussed and the point made that this is but a new name for something which has been in existence for many years. The old, small, employer-employee unit used to operate on this principal with everyone knowing about what was going on. The manager knew his crew and they knew him. Modern industry with larger operating units has made this condition more difficult to achieve.

Quick results from management-labor committee are not to be expected. Time must be taken for the idea to develop and for both labor and management to become practiced in the use of the method.

Among those in attendance were O. R. Hartwig (who was elected vice chairman) and Fred Pontin, both of Crown Zellerbach Corporation and Rayonier Incorporated, Portland, Ore.; and Kenneth H. Larkin and Karl W. Smith, Jr., Pulp Division, Weyerhaeuser Timber Company, Longview, Wash. From Victoria, B. C., came A. M. Whisker of the labor department of the provincial government and safety men from Oregon and Washington state agencies also were present.

Appointed Judge

A. D. Macfarlane, for several years secretary of Sidney Roofing & Paper Co., Victoria, has been appointed a judge of the British Columbia supreme court.



NEW AND RETIRING OFFICERS OF THE WESTERN SAFETY CONFERENCE, Lumber Section, elected at Longview, Wash., recently, are (left to right): Robert Neils, J. Neils Lumber Company, chairman; O. R. Hartwig, Crown Zellerbach Corporation, vice chairman; M. T. Owre, Pine Industrial Relations Committee, Inc., secretary; Paul Black, Boise Payette Lumber Company, retiring treasurer and statistician; Ed Crosby, Columbia Basin Loggers, treasurer and statistician; Glenn Masterson, Weyerhaeuser Timber Company, retiring chairman.

Pulp Testers Approved By Bureau

● Eight of the nineteen pulp and paper mill laboratories approved by the Certified Pulp Testers' Bureau, 122 East 42nd St., New York City, in its up-to-date 1943 list are on the Pacific Coast.

The bureau, established and supported by TAPPI, the American Paper & Pulp Association and the American Wood Pulp Importers, approved these pulp testers in the west:

H. W. Bailkowsky, Pulp Division, Weyerhaeuser Timber Company, Everett, Wash.; N. W. Coster, Soundview Pulp Company, Everett; Clarence A. Enghouse, Crown Zellerbach Corporation, West Linn, Ore.; G. H. Gallaway, Crown Zellerbach Corporation, Camas, Wash.; Nelson Hartnagel, Fibreboard Products Inc., Port Angeles, Wash.; K. C. Logan, Pacific Mills, Ltd., Ocean Falls, B. C.; F. J. Weleber, Hawley Pulp & Paper Company, Oregon City, Ore., and Edward P. Wood, Pulp Division, Weyerhatuser Timber Company, Longview, Wash.

In an additional list of commercial laboratories, the bureau also approved the Cellulose Products Laboratory, 2010 Sixth Avenue, Tacoma, Wash., E. D. Rich, director.

No Snap Jobs For These Port Angeles Women

● Women in men's jobs have proved themselves in a big way in the Crown Zellerbach Corporation's newsprint mill at Port Angeles.

Nearly 40 have been employed since January 1 and they are doing some jobs that would hardly be classed as "soft." The women are employed bucking rolls on the machines, working on the broke beater, salvaging broken paper and one drives yard jitneys.

The women who are roll-bucking in the machine room and those who are crimping, capping and dollying in the finishing room all handle rolls of newsprint up to one ton in weight.

About seventy former men employes are in the service on leave of absence from a normal payroll of 500. Employment of women in men's jobs for the first time in the history of this mill began about the first of the year.

Keymen Club Picnic

● The Keymen Club, an organization of sub-foremen of the Camas plant of Crown Zellerbach Corporation, held its second annual picnic at Dead Lake near Camas on July 22. Sixty-five members attended the annual get-together and initiated as new members T. R. Goodwin, R. D. Day, R. J. Fuller, C. F. Wilkinson, W. H. Atterbery and Ray Mulineaux.

Fishing Is Good

J. L. Janecek, general superintendent, Inland Empire Paper Company, Millwood, Wash., and Dan Charles, 1331 Third Avenue Bldg., Seatlte, representative of Wisconsin Wire Works, Appleton, Wis., found the fishing unusually good recently at Spirit Lake, Idaho. According to reliable sources, Mr. Charles pulled in a 21 inch trout and Mr. Janecek's biggest one was 18 inches.

Everett P. & P. Co. Makes Paper For War Purposes

● An erroneous popular notion is that a book paper mill is not likely to be counted among the mills producing essential pulp and paper products for the war.

How wrong this is, is shown by the fact that the Everett Pulp & Paper Company of Everett, Wash., the only book paper mill on the Pacific Coast, is supplying book paper, mimeograph paper and writing paper for direct war purposes. It is also making pads, memorandum book and duplicate papers for war purposes.

The book-reading public may reasonably anticipate that the paper shortage will not further curtail the number of books for Summer and Fall reading.

The Printing and Publishing Division of the WPB recently announced that it is not likely that further restrictions on paper for book publishing will be imposed by WPM at least prior to October 1, 1943, provided that publishers live strictly within their allowable quotas. Limitation Order L-245, issued January 8, 1943, fixes the quota of each book publisher at a maximum of 90 per cent of the weight of paper consumed in the production of books in the base period of 1942.

Here's An Idea For Service Men's Gifts

● Fifty members of the Technical Department of the Camas plant of the Crown Zellerbach Corporation put 75 cents each month into a "kitty" for the purchase of two War Bands. As a result of a drawing, one of these bonds is awarded to some former member of the staff who is now in the armed services, and the other goes to a staff member still at the plant.

So far, one each has gone to Lt. Cliff Parr of the field artillery and Lt. Paul Middlebrook of the air corps. The lucky plant winners have been Herb Wymore and Jim Hayes.

Uncle Sam Demands More Rayon for Tires

● New structure and equipment will be authorized by the government for at least a 50 per cent expansion of high tenacity rayon yarn manufacture, according to Rayon Monthly.

This high tenacity yarn is a prime essential of the synthetic rubber tire industry, being the only available material which will successfully withstand the high temperature developed by this synthetic rubber.

Dissolving wood pulp is being introduced at a rapid rate in the production of these high tenacity yarns and most of it comes from the Pacific Coast.

These tires, made for severe service, are used on bomber and fighter planes, gun carriages and army trucks.

L. A. Yerkes, of E. I. du Pont de Nemours & Company, says: "We are told the industry's present production rate of 80,000,000 pounds per year must be doubled as quickly as possible to keep step with the rapidly increasing output of synthetic rubber."

Rayon Monthly said authorized expansion would account for some 35 to 40 million pounds additional output."

Acid Making In the Sulphite Pulp Industry

by A. H. LUNDBERG*

CHAPTER II -- Continued

In response to numerous inquiries it may be said that publication of Mr. Lundberg's articles in book form is contemplated next year. The installments, which began in the January issue, will continue for a number of months.

In this article Mr. Lundberg continues a discussion of essential units necessary for acid making. In the July installment, he discussed the SO_2 Producing Unit and the Bisulphite Producing Unit. Under the latter heading his discussion was of three methods of absorbing sulphur dioxide: (a) in a lime rock tower, (b) in milk-of-lime and (c) in a suspension of pulverized calcium carbonate and other carbonates. The temperature calculations below refer to bisulphite production.

4. Temperature Calculations.

Following data assumed:

Raw acid made 1300 U.S. Gals.

Gas test 17% SO_2—4% O_2—79% N_2 saturated at 80°F.

Gas temperature 80°F.

Fresh water temperature 50°F.

Finshed acid wanted—4.62% Total SO_2
2.73% Free SO_2
1.89% Comb. SO_2.

SO_2 required $\frac{4.62}{100} \times 1300 \times 8.33 = 500$ lbs. $= 250$ lbs. Sulphur.

From Table IX Total volume (dry gas)
$2.5 \times 6588 = 16470$ cu. ft. S.T.P.

From Table VI Total volume (saturated)
$= 17090$ cu. ft. S.T.P. $= 47.6$ Mols.

Gas test saturated	
SO_2	16.4%
O_2	3.8%
N_2	76.3%
H_2O	3.5%
	100.0%

a. Lime Rock Tower.

Heat of reaction and solution, see Chapter I, Paragraph XII.

$2.73 \times 1.0 = 2.73$°C.
$1.89 \times 4.0 = 7.56$°C.

10.29°C. $\times 1.8 = 18.5$°F.

Heat in gas entering (see Chart II):

SO_2	$.164 \times 47.6 =$	$7.8 \times 9.2 =$	71.8	
O_2	$.038 \times 47.6 =$	$1.8 \times 6.9 =$	12.4	
N_2	$.763 \times 47.6 =$	$36.3 \times 6.9 =$	250.3	
H_2O	$.035 \times 47.6 =$	$1.7 \times 8.4 =$	14.3	
	1.000	47.6	$348.8 \times (80 - 32) = 16700$ B.T.U.	

Heat of vaporization $1.7 \times 18 \times 1025 = 31400$ B.T.U.

48100 B.T.U.

*Seattle, Washington. Mr. Lundberg is Western Manager, G. D. Jenssen Company, New York City.

Heat in gas leaving (see Chart II)

$H_2OSO_2 + CaCO_3 = CaSO_3 + CO_2 + H_2O$

CO_2 gas $= \frac{44.01}{64.06} \times \frac{1.89}{100} \times 1300 \times 8.33 = 141$ lbs. $\times$ 8.16 $= 1150$ cu. ft. S.T.P.

CO_2	=	1150 cu. ft. S.T.P. =	7.6%
O_2	=	659 cu. ft. S.T.P. =	4.4%
N_2	=	13009 cu. ft. S.T.P. =	86.8%
H_2O	=	185 cu. ft. S.T.P. =	1.2%
		15003 cu. ft. S.T.P. =	100.0%

= 41.8 Mols.

CO_2	.076 × 41.8 =	3.2 × 9.2 =	29.5
O_2	.044 × 41.8 =	1.8 × 6.9 =	12.4
N_2	.868 × 41.8 =	36.3 × 6.9 =	250.3
H_2O	.012 × 41.8 =	.5 × 8.4 =	4.2
	41.8	296.4 × (50 — 32) =	5330 B.T.U.
Heat of vaporization	.5 × 18 × 1062 =		9560 B.T.U.
			14890 B.T.U.

Temperature rise due to heat in gas
(48100 — 14890) ÷ (1300 × 8.33) = 3.1°F.
Temperature of finished acid = 50 + 18.5 + 3.1 = 71.6°F.

According to the tower acid tables we find that the fresh water has to be heated about 5½° F. as the acid stipulated is found on Chart XXII (77°F.) for 17% gas.

b. Milk-Of-Lime.

Heat of reaction and solution, see Chapter I, Paragraph XII.

2.73 × 1.8 = 4.91°F.
1.89 × 17.7 = 33.45°F.
38.36°F.

Heat in gas entering, same as under a.—48100 B.T.U.

Heat in gas leaving:

O_2	=	659 cu. ft. S.T.P. =	4.8%
N_2	=	13009 cu. ft. S.T.P. =	94.0%
H_2O	=	182 cu. ft. S.T.P. =	1.2%
		13850 cu. ft. S.T.P. =	100.0%

= 38.6 Mols.

O_2	.048 × 38.6 =	1.8 × 6.9 =	12.4
N_2	.940 × 38.6 =	36.3 × 6.9 =	250.3
H_2O	.012 × 38.6 =	.5 × 8.4 =	4.2
	38.6	266.9 × (50 — 32) =	4810 B.T.U.
Heat of vaporization	4.64 × 18 × 1062 =		8860 B.T.U.
			13680 B.T.U.

Temperature rise due to heat in gas
(48100 — 13680) ÷ (1300 × 8.33) = 3.2°F.
Temperature of finished acid 50 + 38.4 + 3.2 = 91.6°F.

According to saturation chart XX-A the stipulated acid is the theoretical for 95°F.—15% SO_2 gas. Thus, it is possible to produce the acid in question.

c. Powdered Lime Stone.

As the temperature of the finished acid will be the same as for the lime stone, 71.6°F., there should theoretically be no difficulty in the production of same.

C. Recovery Unit.

In this unit the cooking acid is prepared. It is also the unit least understood and therefore seldom given the thought and study it requires for efficiency. As far as gas absorption is concerned the recovery unit is independent of the type bisulphite producing unit used.

The importance of high SO_2 strength gas on the ultimate acid concentration has amply been pointed out in connection with the solubility of SO_2 in water and bisulphite solution. There only remains to point out that the equilibrium between the incoming gas and the gas in solution depends on the vapor pressures above the gas in solution.

In a mixture of gases the pressure of each constituent gas is independent of the pressure of the others, and each gas exerts a partial pressure that is equal to the pressure which it would exert if it occupied the entire volume of the mixture. Furthermore, the partial pressure of the constituents are additive. Therefore, the total pressures of a mixture is the sum of all of partial pressures of the constituents. The total pressure of a mixture is commonly called the barometric pressure and is equal to the sum of partial pressures of the various gases and water vapor.

It is true, however, as Professor W. L. Beuschlein[9] points out, "that when sulphur dioxide is dissolved in water, the escaping tendency of each is reduced owing to the pressure of the other, and furthermore, when lime is dissolved in sulphurous solution—even though lime has a negligiable vapor pressure as solid—it reduces the vapor pressure of water and of sulphur dioxide molecule of the solution." See Chapter I, Table XVI and saturation curves. This fact, however, is only of minor importance in practical acid making.

1. Cold Acid Recovery.

Charts XXVIII, XXIX, XXX and XXXI show the concentrations of the cooking acid at 25, 30, 35 and 40°C. respectively at atmospheric pressure for various relief gas concentrations. For instance, when the gas contains 90% SO_2, it is possible according to chart XXVI at 30°C.—86°F. to hold in solution an acid 8.06% total—1.50% comb. SO_2. If, however, the gas through excessive air infiltration drops to 60% SO_2, an acid containing 6.48% total—1.50% comb. SO_2 remains. The balance of the dissolved SO_2 has escaped.

Consequently, it is as important to maintain a uniform high gas test in the relief gases as in the burner gases.

2. Hot Acid Recovery.

Charts XXXII, XXXIII and XXXIV show the maximum concentration of the cooking acid at 60, 70 and 80°C. respectively and at 3 atmospheres (29.4 lbs. G.P.).

Even with hot acid recovery uniform SO_2 strength of the relief gases is of importance, but not as important as with cold acid recovery. With hot acid recovery the pressures can always be changed to suit acid strength wanted. Chart XXXV shows concentration of the cooking acid at 80°C. and 4 atmospheres (44.1 lbs. G.P.).

(9) W. L. Beuschlein: Measurement of Vapor Pressures of Sulphurous Acid Solutions.—Pacific Pulp and Paper Industry, Feb., 1941.

(To be continued in the September issue of PACIFIC PULP & PAPER INDUSTRY. On the following pages is a continuation of Mr. Lundberg's charts.)

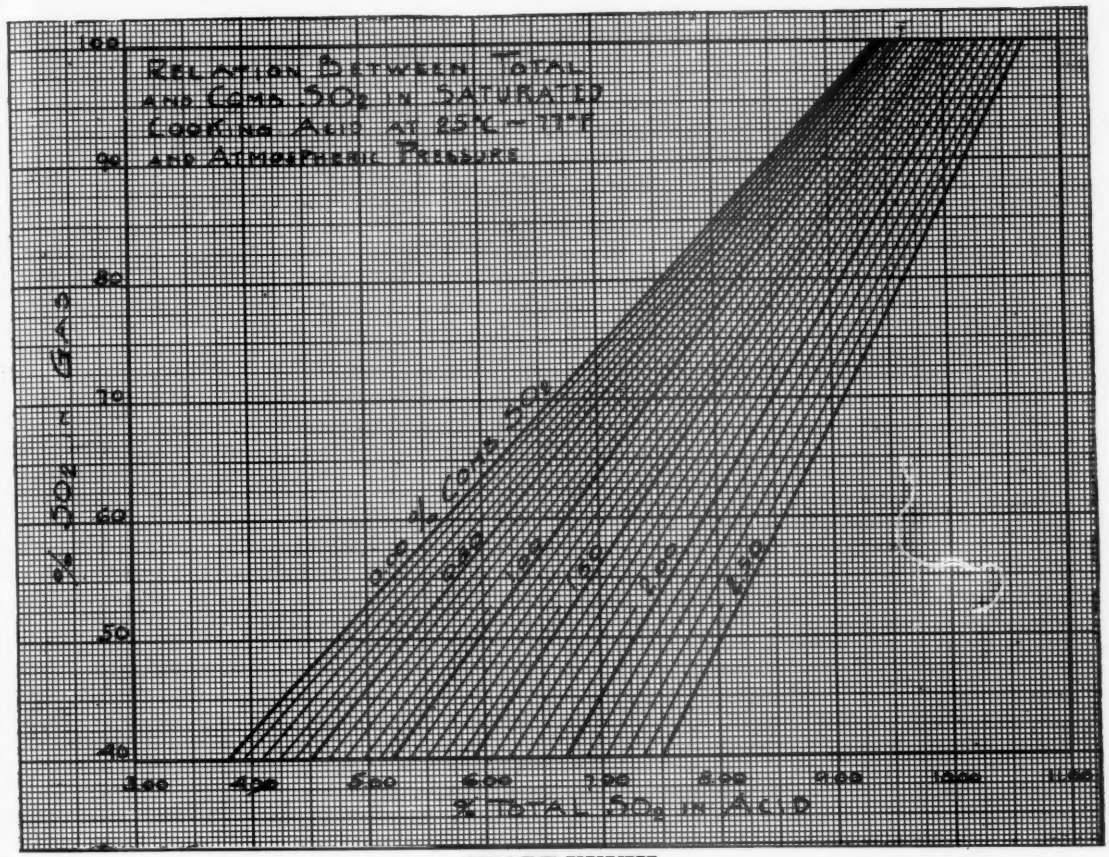


CHART XXVIII

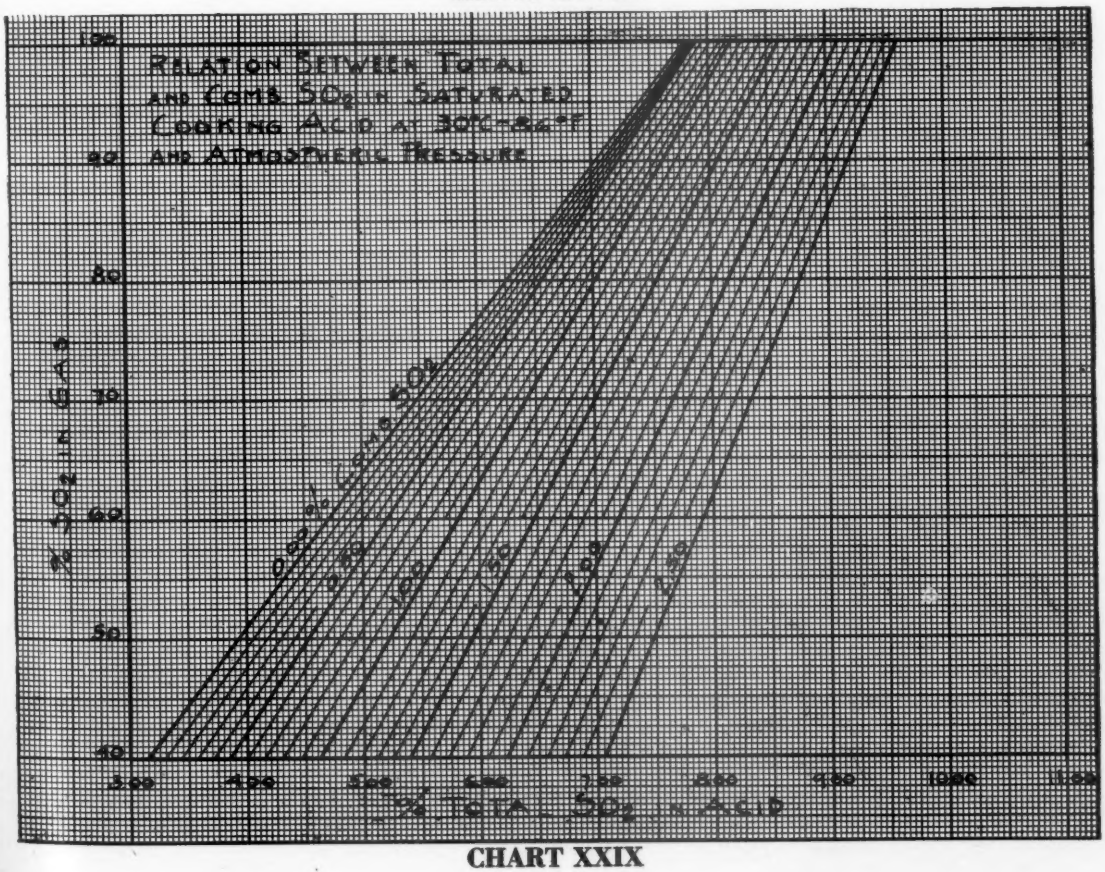
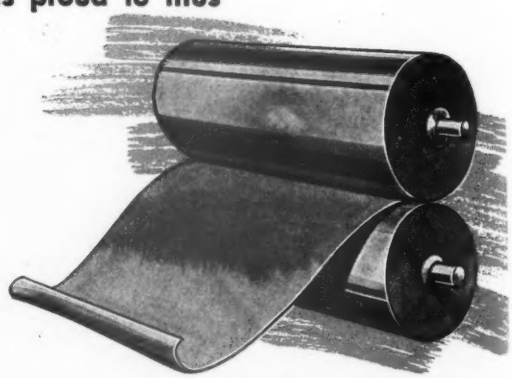


CHART XXIX

The bare announcement . . . nothing more . . . can now be made. Synthetic rubber in continuous sheets . . . synthetic rubber created like paper on specially adapted paper mill machinery . . . is now *an accomplished fact.*

Black-Clawson equipment is used for this vital job. Black-Clawson engineering helped to solve the many difficult problems before continuous production was possible. And quite naturally, Black-Clawson is proud to thus participate in the great battle for rubber.

Some day, victory will be ours. And when that time comes, the many techniques and methods we are learning today will be used to build paper mill machinery far superior to anything yet created. *The Black-Clawson Co , Hamilton, Ohio. • Shartle Division, Middletown, Ohio. • Dilts Division, Fulton, N. Y.*



No. 1 in Paper Mill Machinery Research

BLACK—CLAWSON—SHARTLE—DILTS

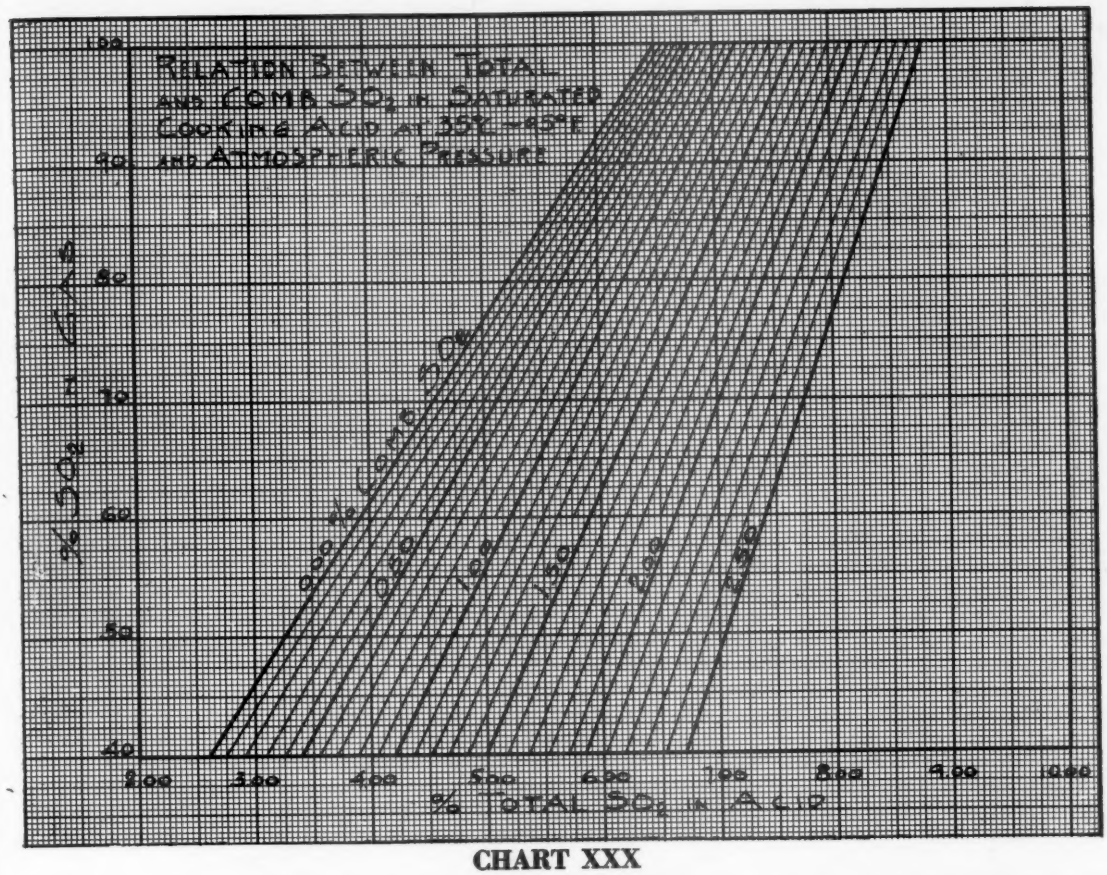

RELATION BETWEEN TOTAL AND COMB. SO_2 IN SATURATED COOKING ACID AT 35°C = 45°F AND ATMOSPHERIC PRESSURE
% COMB. SO_2 IN ACID
% TOTAL SO_2 IN ACID

CHART XXX

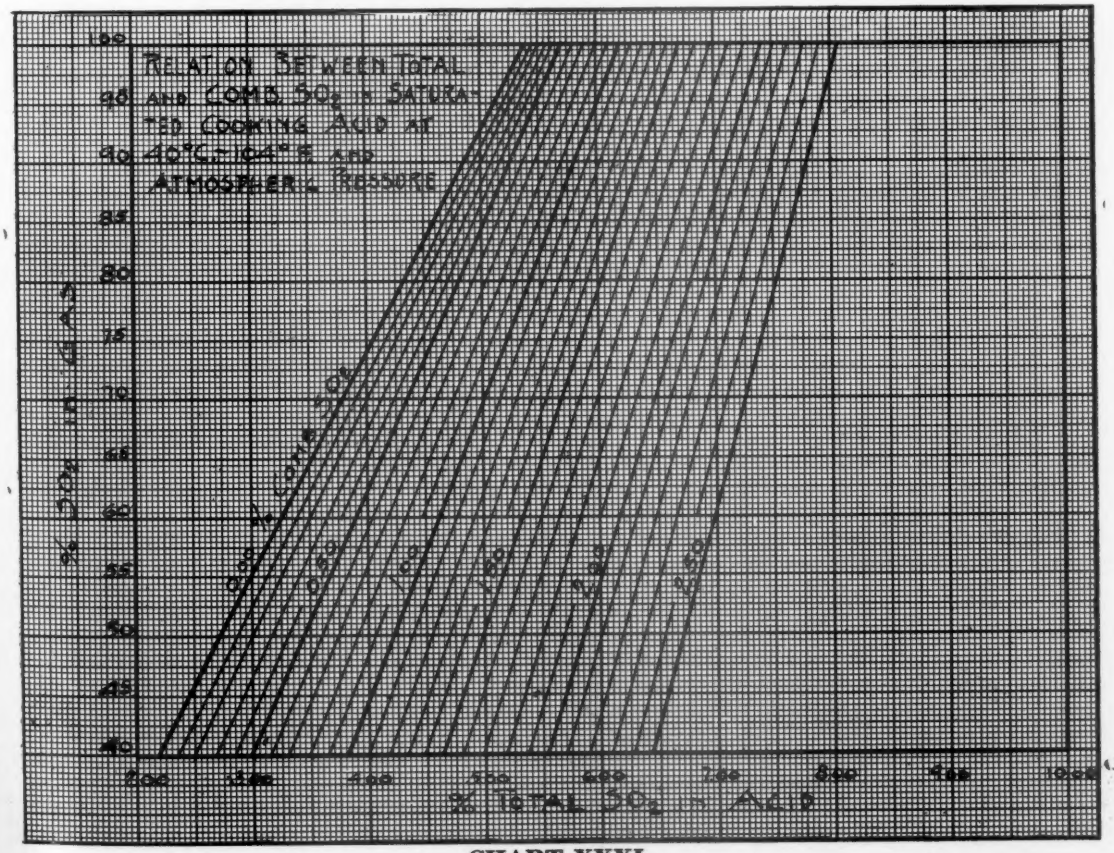

RELATION BETWEEN TOTAL AND COMB. SO_2 IN SATURATED COOKING ACID AT 40°C = 104°F AND ATMOSPHERIC PRESSURE
% COMB. SO_2 IN ACID
% TOTAL SO_2 IN ACID

CHART XXXI

RAYONIER
INCORPORATED
RESEARCH conducted by the rayon industry over many years, today makes possible new and urgently needed applications of rayon for military purposes and civilian uses.
RESEARCH by Rayonier is constantly directed toward the development of new types of improved wood cellulose to meet the changing requirements of the rayon industry.
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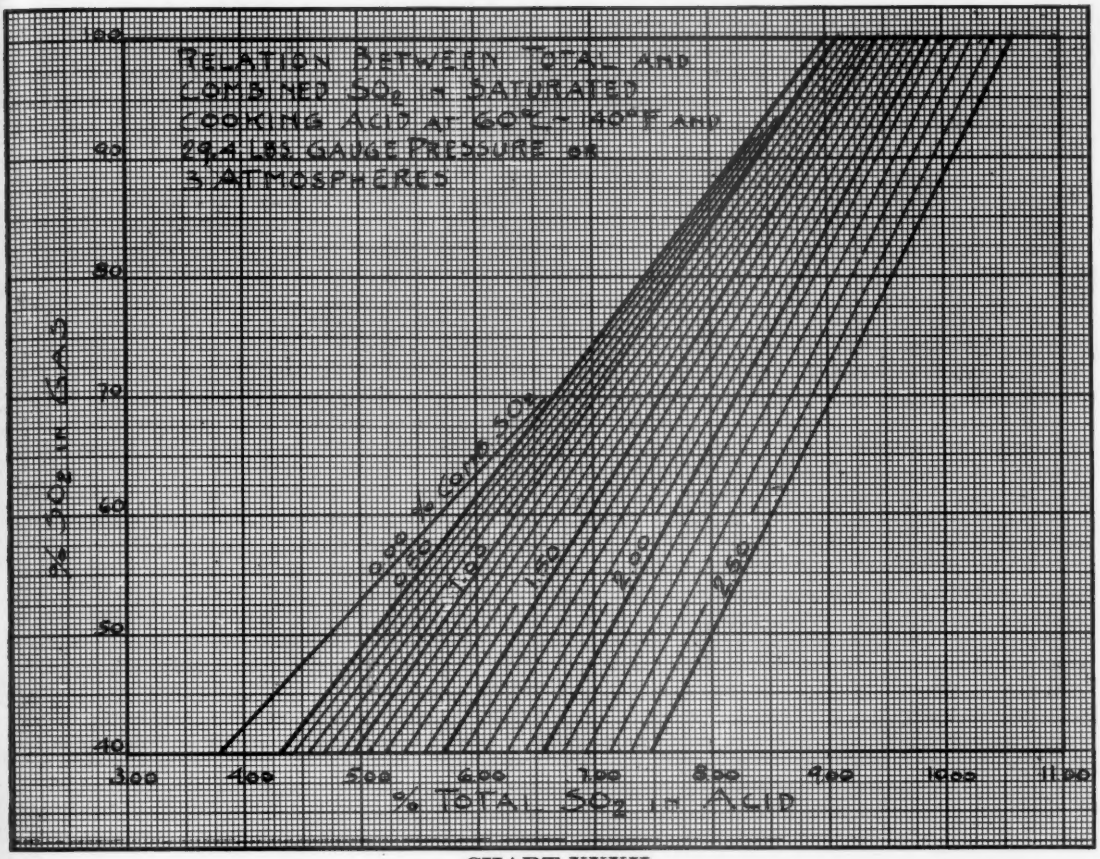


CHART XXXII

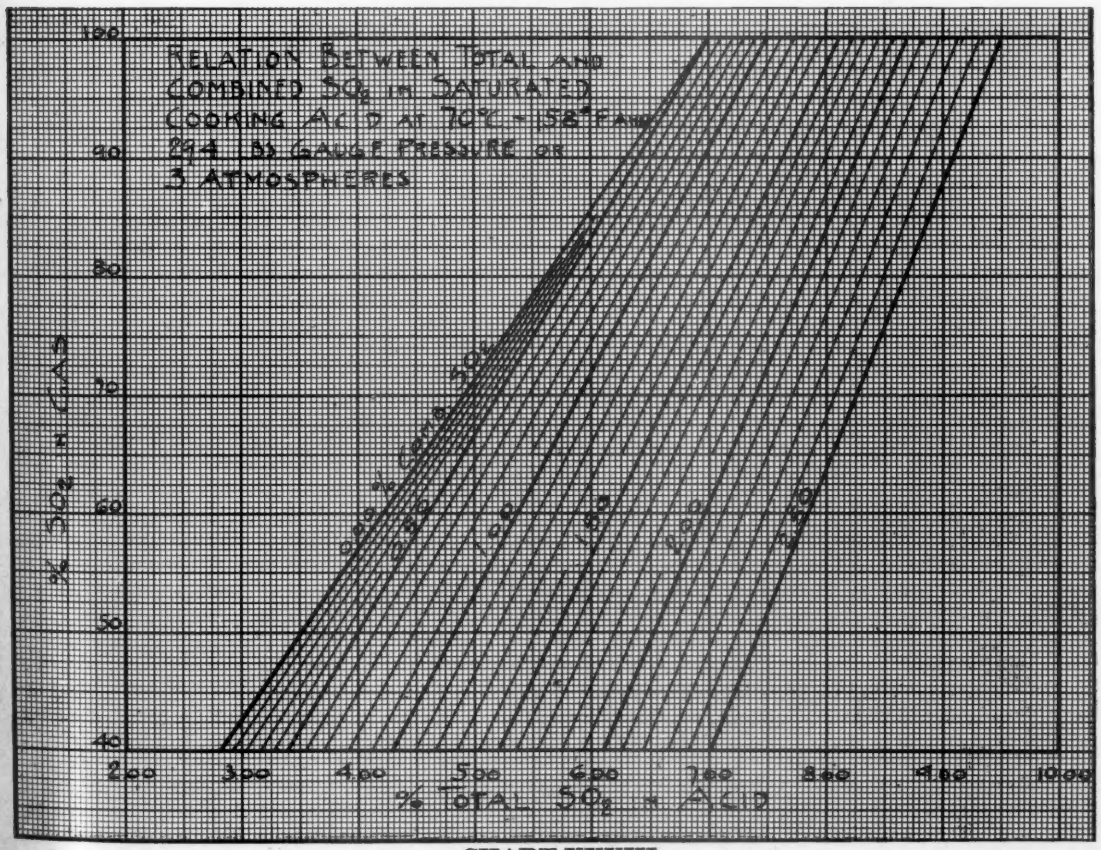


CHART XXXIII

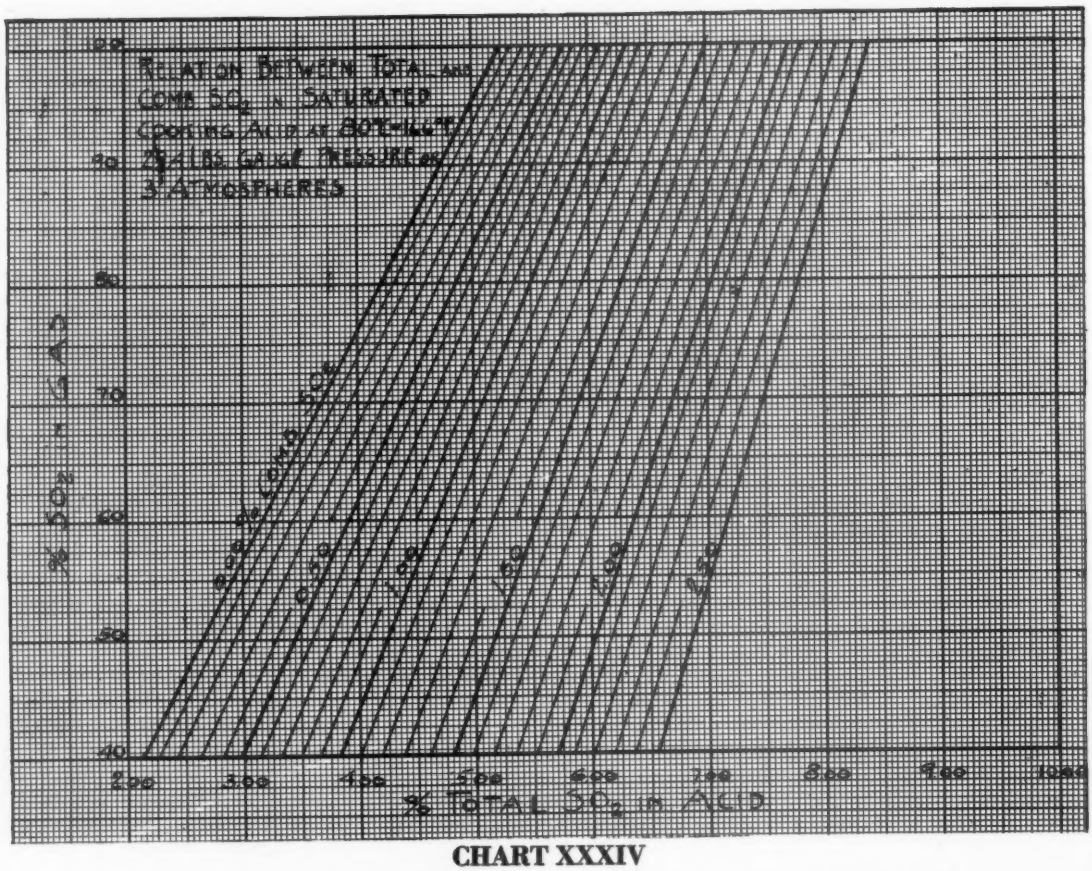

RELATION BETWEEN TOTAL AND COMB. SO_2 IN SATURATED COOKING ACID AT 80°C=166°F AND 2½ LBS GAUGE PRESSURE OR 3 ATMOSPHERES
% TOTAL SO_2 IN ACID

CHART XXXIV

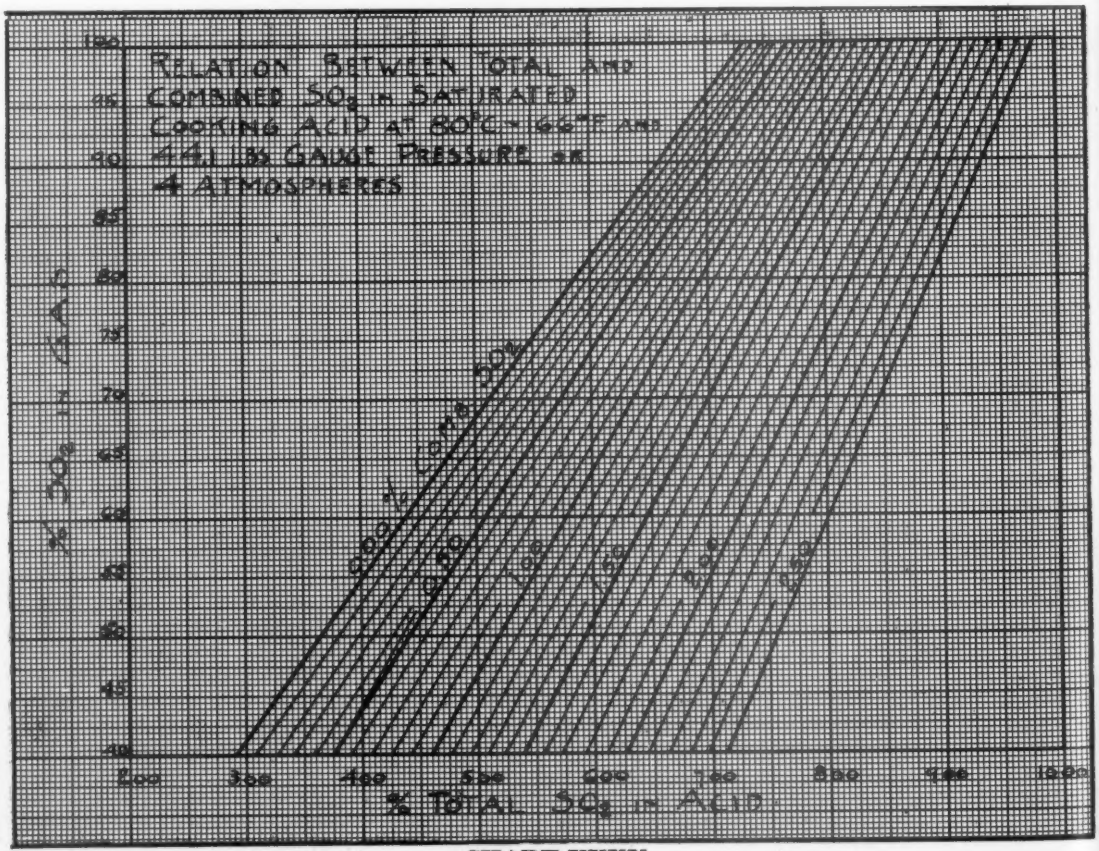
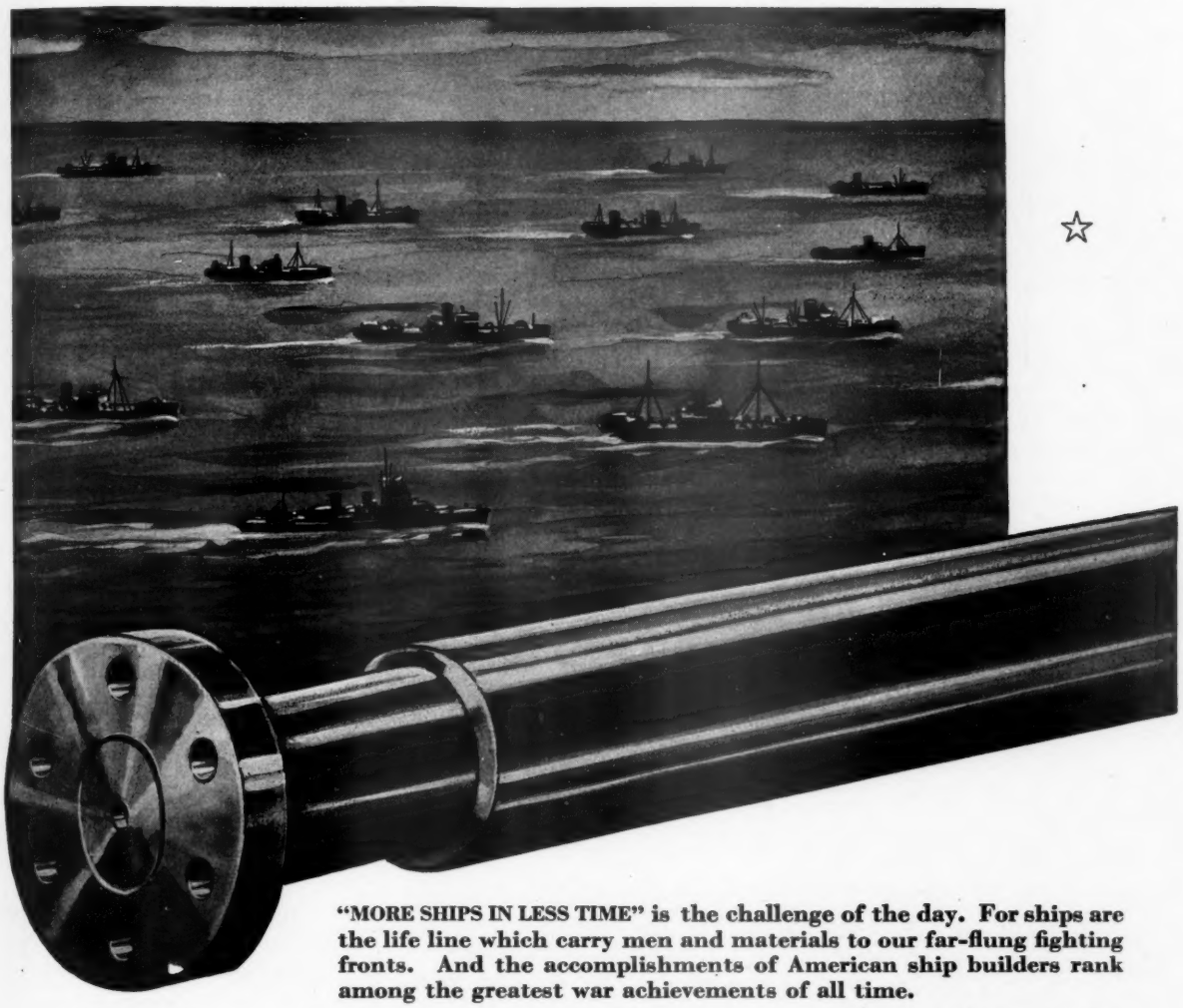

RELATION BETWEEN TOTAL AND COMBINED SO_2 IN SATURATED COOKING ACID AT 80°C=166°F AND 44.1 LBS GAUGE PRESSURE OR 4 ATMOSPHERES
% TOTAL SO_2 IN ACID

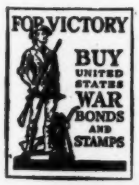
CHART XXXV

SHAFTS *for our Ships of War...*



"MORE SHIPS IN LESS TIME" is the challenge of the day. For ships are the life line which carry men and materials to our far-flung fighting fronts. And the accomplishments of American ship builders rank among the greatest war achievements of all time.

Today, we are proud of the part we are playing in this great ship building program. For, here at Jones, we've been under way at full speed ahead, for over a year, in supplying propeller shafts for cargo ships. And we are also devoting every ounce of our energy and the full measure of our skill in building parts for other war equipment until victory is won.



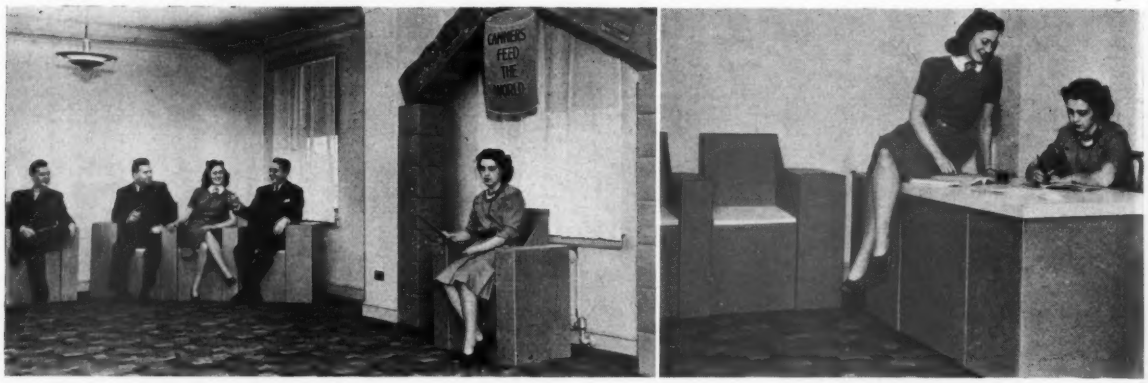
Jones

GEARED FOR WAR PRODUCTION

E.D. JONES & SONS COMPANY-PITTSFIELD, MASS.

Builders of Quality Machinery for Paper Mills

Nope, Folks, the Inkwell is NOT Made of Paper!



This "little bit of paperboard heaven" was created in a Seattle hotel not so long ago for the edification of a Pacific Northwest canners' convention. Made especially for the event by Western Container Company, division of California Container Corporation, this paper furniture successfully held up canners of all divisions, from flyweight to heavy weight.

Plywood Shaker Screen Introduced At St. Helens

● A plywood shaker screen has been in use for some months at the St. Helens, Ore., plant of the St. Helens Pulp and Paper Company. Operating alongside steel screens, it is showing advantages which make it likely that others will be installed in the future.

The bottom and sides of the screen are made of waterproof plywood, the bottom being ¾-inch and the sides ½-inch. In bolting the plywood together 1½ by 1½ by ¼-inch angle iron is used and ⅜-inch Elastic Stop Self Locking nuts, made by Elastic Stop Nut Corp., have been used to stay tight under the incessant vibration of this assembly. Braces of iron are used in places to provide strength.

Where the chips from the conveyor fall into the screen, the wooden sides of the screen have been protected with sections of rubber belting to guard against erosion of the wood.

Listed as advantages of these screens over older types of construction are lightness and low cost of construction. These weigh about 500 pounds and are about one quarter of the weight of the steel screen. The oscillating motion which these screens undergo makes this lightness an advantage in lessening the upkeep of the screen as well as that of the bearings, transmission equipment, etc.

These screens are for the purpose of producing a chip of uniform size for cooking. Long slivers and larger pieces are screened out to go back to the chipper.

Joins Forester Staff

Charles L. Tebbe has been appointed assistant regional forester North Pacific region, in charge of the division of state and private forestry. He fills the vacancy created by the promotion of H. J. Andrews to the position of regional forester, North Pacific region, U. S. Forest Service, Portland, Ore.

Mr. Tebbe was employed by several Pacific Coast lumber companies after graduating in 1929 in forestry from the University of California. He served for approximately four years in private industry.

THIS PLYWOOD SHAKER SCREEN is showing advantages in lightness and low cost at St. Helens Pulp & Paper Company.

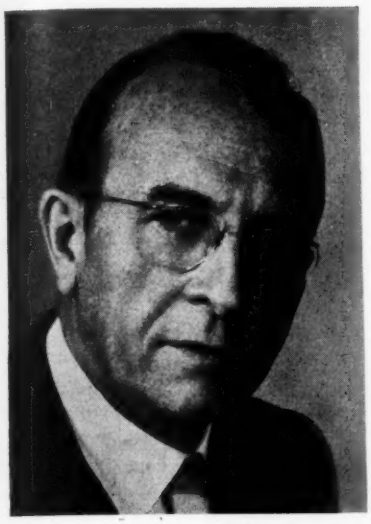
A HIGHLIGHT FROM THE RECORD

In the past ten years, while other living costs have mounted, the average cost of electricity to homes and farms served by Puget Power has gone down almost 40%. As a result of rate reductions and increased use the average rate per KWH for this service delivered to your home or farm is now less than two cents.

Even though electricity is cheap and unrationed—don't waste it.

PUGET SOUND POWER & LIGHT COMPANY

New Vice President For Westinghouse



● **Chas. A. Dostal, above, of San Francisco, Pacific Coast District manager** for the Westinghouse Electric & Manufacturing Co. since 1939, has been elected a vice president of Westinghouse by the company's board of directors. Mr. Dostal has served Westinghouse in various capacities almost continually since 1906. He will continue to make his headquarters at San Francisco, and to direct sales activities of the company in all or parts of nine western states, Alaska and the Hawaiian Islands. States included in his area are California, Oregon, Washington, Idaho, Nevada, Utah, Arizona, central and western Montana and western Wyoming. He is a resident of Hillsborough, Calif., near San Francisco.

Westinghouse Dept. Head

Recognition of the growing business and industrial importance of the Pacific Coast and confidence in the future of that area were believed mirrored in a recent executive appointment made by the Westinghouse Electric & Manufacturing Co.

Charles A. Butcher, of Pittsburgh, Pa., formerly assistant to the national manager of the company's District Manufacturing and Repair Department, was named manager of that department for the entire Pacific Coast District of Westinghouse. Mr. Butcher succeeded R. E. Powers, resigned.

Pulp Mill Plans Off But Rubber Job Beckons

● Le Roy W. Huntington, forester with eleven years experience in the Philippines alone, and also in Alaska and Pacific Coast states, recently resigned a position with the Union Forestal de Jalisco y Colima at Guadalajara, Mexico, a company which contemplated construction of a pulp and paper plant in the Guadalajara area.

Mr. Huntington, a University of Washington graduate forester, said inability to obtain logging machinery and other equipment under war conditions caused indefinite postponement of the project. He has accepted a position as senior field technician with the American Rubber Development Corporation at Bogota, Colombia.

Rayonier Employes Share Victory Gardens

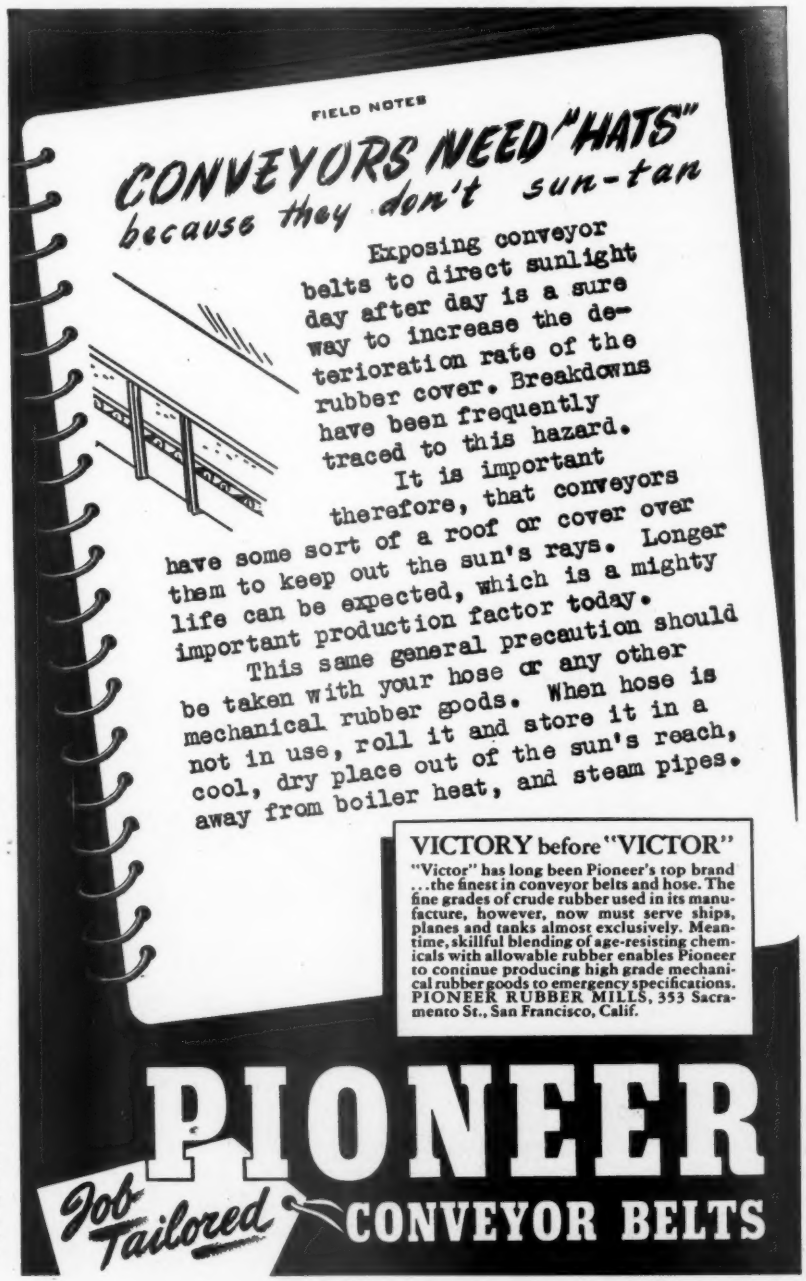
● Forty employes of the Port Angeles, Wash., division of Rayonier Incorporated, share Victory gardens on 34 lots, totaling between four and five acres, in Ennis Creek valley, on company-owned grounds near the plant.

The land was plowed and disced and then divided into 34 plots averaging 4,000 square feet each. Some tracts were divided again so two persons had joint use of them.

Among many novel devices used to frighten away the raiding pheasants is a wooden seagull, which flaps its wings in the breezes. This seagull hovers over the plot farmed by William Breitenbach, resident manager. But when the wind doesn't blow, the seagull makes an excellent perch from which the pheasants dive-bomb the Breitenbach plot.

Tin objects on lines are also used in an effort to frighten away the marauders. H. A. Sprague, assistant resident manager, said there have been unconfirmed reports that the pheasants play a tune on the tins while picking seed. The gardens, however, are thriving despite the pheasants.

The cooperative gardens are on land which was the historic farm of the Puget Sound Cooperative Colony in 1887, where produce was grown which kept early colonizers from facing starvation. The colony's store, meeting hall, sawmill and shipyards were on ground where the Rayonier plant now stands.


FIELD NOTES
CONVEYORS NEED "HATS"
because they don't sun-tan
Exposing conveyor belts to direct sunlight day after day is a sure way to increase the deterioration rate of the rubber cover. Breakdowns have been frequently traced to this hazard.
It is important therefore, that conveyors have some sort of a roof or cover over them to keep out the sun's rays. Longer life can be expected, which is a mighty important production factor today.
This same general precaution should be taken with your hose or any other mechanical rubber goods. When hose is not in use, roll it and store it in a cool, dry place out of the sun's reach, away from boiler heat, and steam pipes.
VICTORY before "VICTOR"
"Victor" has long been Pioneer's top brand ...the finest in conveyor belts and hose. The fine grades of crude rubber used in its manufacture, however, now must serve ships, planes and tanks almost exclusively. Meantime, skillful blending of age-resisting chemicals with allowable rubber enables Pioneer to continue producing high grade mechanical rubber goods to emergency specifications. PIONEER RUBBER MILLS, 353 Sacramento St., San Francisco, Calif.
PIONEER
Job Tailored
CONVEYOR BELTS

And Now, We Do It Again, Too—And Gladly

IN LAST MONTH'S PACIFIC PULP & PAPER INDUSTRY, WE PUBLISHED THE ABOVE PICTURE—PLUS SOME SURROUNDING SCENERY WHICH HAS BEEN TRIMMED AWAY—under the heading "Hawley Does It Again." When we did so, we didn't realize that this month we would have to "do it again," too. Unfortunately, somewhere between the editor's desk and the press the names of a few of these good people were dropped out of the descriptive caption published under the picture. And so now, we are "doing it again" by republishing it. These eight formed the Second War Bond Drive Committee which "did it again" at Hawley Pulp & Paper Company, Oregon City, selling almost $100 in bonds per employe—a total of $51,700—over and above regular payroll deductions.

Left to right—here goes!—they are: BYRON MAINE, MRS. HARRY SIMONS, RAY FOSBERG, SR., MRS. HAZEL ERICKSON, FRANK FERGUSON, ALVA GARD, MRS. E. HARRIS and HAZEN BERNARD. We are glad to make this correction.

PULP & PAPER MILL ENGINEER

Mech.-Struct. training & experience now in chg. maintenance work, large Wisconsin mill desires make contacts leading to West Coast connection. Available for coast interview week of August 30. Reply Box 17, Care of Pacific Pulp & Paper Industry, 71 Columbia Street, Seattle, 4, Wash.

Buckley, Dunton Men On Pacific Coast Tours

● Fred Enders, president of Bulkley, Dunton Pulp Company, 295 Madison Ave., New York City, and Mrs. Enders made a tour of the Pacific Northwest in July. Mr. Enders, who was west on his previous trip about the same time in 1942, visited all his business connections in western Canada and the United States, and they returned to New York from Seattle.

Rex Vincent, of the midwest office of Bulkley, Dunton at 80 East Jackson Blvd., Chicago, was also on a Pacific Coast trip in July, spending much of his time at Soundview Pulp Company in Everett and Puget Sound Pulp & Timber Company in Bellingham.

Bristol Promotes Peckham and Nuber

● J. W. Peckham has been appointed manager of the development and design engineering department for The Bristol Company, Waterbury, Conn., manufacturers of automatic control and recording instruments, according to an announcement made by L. G. Bean, vice president in charge of engineering and sales.

Mr. Peckham was graduated from Rhode Island State College in 1921, and in 1922 he joined the Bristol radio engineering department. In 1940 he was appointed Pacific Coast district manager.

E. Nuber has been appointed manager of the Pacific Coast branch offices and factory of The Bristol Company, with headquarters at 40 Berry St., San Francisco.

Mr. Nuber studied electrical engineering at Brooklyn Polytechnic Institute. He was associated with the New York Edison Company for six years, and joined The Bristol Company in 1929 as sales engineer.

West Linn Employes Pass On

● C. A. Baxter, groundwood superintendent at the West Linn, Ore., mill since 1919 and Crown Zellerbach employee since January 8, 1895, died July 26. He was 68.

Following an illness of several weeks, Tom Smith, generator operator in the West Linn mill, passed away on August 1. Born in London, England, he came to the Crown organization in May, 1922. Smith was president of the Clackamas County labor council at the time of his death.

INCOME ACCOUNTS

Independently audited consolidated income accounts for years ending April 30:

Crown Zellerbach Corp. and Subsidiaries

	1943	1942
Sales	$84,656,362	$86,336,150
Cost of goods sold	59,253,680	55,889,897
Profit on sales	$25,402,682	$30,446,253
Other operating income	726,498	1,365,798
Gross operating income	$26,129,180	$31,812,051
Operating expenses	7,556,094	7,738,277
Operating profit	$18,573,086	$24,073,774
*Other income (net)	248,403	683,725
Total income before prior charges	$18,821,489	$24,757,499
Depreciation	2,909,691	3,834,108
Depletion	817,505	785,827
Interest	91,488	147,917
Minor int. in subs' income	71,518	96,846
Inc tax (U. S. & Canada)	7,388,000	8,784,000
Reserve for wartime and war contingencies		2,000,000
Net profit	$7,543,287	$9,108,801

*Includes in 1943 $468,930 dividends from Fibreboard Products Inc. (pro rate of consolidated earnings for the year exceeded the dividends received by $126,090), less other expenses of $220,527. In 1942, $750,495 dividends from Fibreboard, less other expenses of $66,770. In 1941, dividends of $562,785 from Fibreboard, less other expenses of $167,227.

Rayonier Incorporated

	1943	1942
Sales	$28,777,865	$31,316,906
Cost of sales & other expenses	21,326,785	19,325,622
Operating income	$7,450,990	$11,991,284
Other income (net)	*190,025	†92,917
Total income	$7,641,015	$12,083,501
Depreciation	1,514,386	1,492,411
Depletion	115,469	68,017
Selling, administration & general expense	877,586	1,032,356
Interest and amortization	90,565	100,312
Projects abandoned	988,274	----
Loss on retirements	48,182	27,435
Miscellaneous expense	59,909	----
Normal income taxes	1,150,000	1,675,000
Excess profits tax	700,000	3,925,000
Additional for pr years	113,135	----
Net profit	$1,943,959	$3,762,970

*Credit from retroactive reduction of depreciation rates on special groups of plant assets. †Includes $89,592 income tax credit for prior years.

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